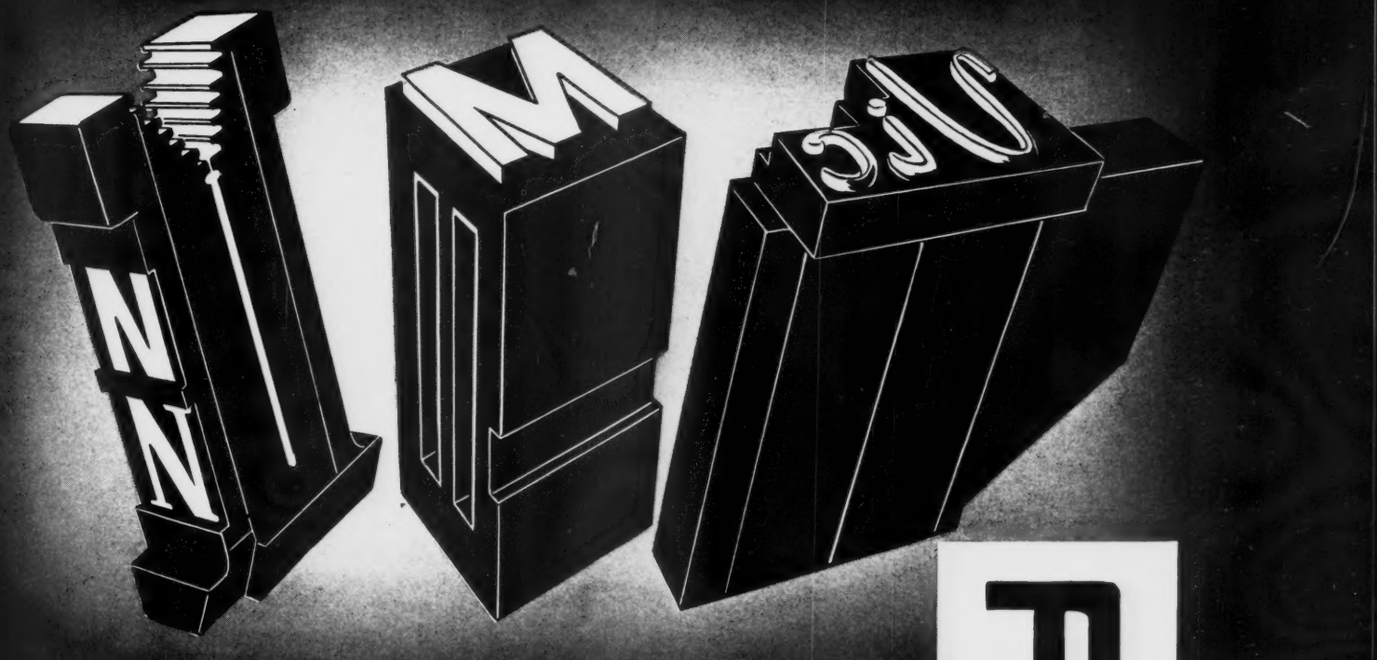
PRINTING EQUIPMENT ENGINEER



A TECHNICAL PUBLICATION FOR PRODUCTION AND MECHANICAL EXECUTIVES IN THE GRAPHIC ARTS INDUSTRY

YOU CAN'T SHIFT NOW—On a Linotype it's impossible to shift magazines while there's a mat on the bar. The Automatic Matrix Guard just won't let you. There's nothing to watch, nothing to look at—just positive protection. Another Linotype advantage.

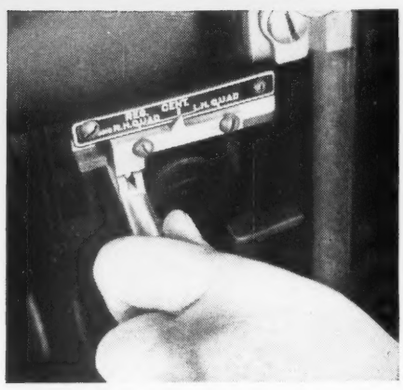
NOW YOU CAN—The bar is clear! Every mat has dropped to the proper channel of the proper magazine. The feeler bar moves out and allows the shift to be made. It couldn't move out when the mats were there. Only on Linotype will you find this protection!

TRADE **LINOTYPE** MARK

Linotype Scotch No. 2 and Erbar Bold Condensed

SWING TIME!

This machinist is showing off his favorite Linotype love. It's the Swinging Keyboard. "Smooth running keyboards are the first step in steady production," says he, "and I keep 'em in shape because I can get at 'em in no time." Just for fun we clocked him to see what he meant by "no time." Eight seconds to this point. And in fifteen seconds he had it all as accessible as if it were on the work-bench. Swinging Keyboard is found only on the Linotype.

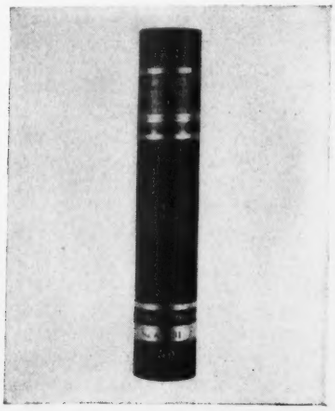


QUAD WITHOUT QUADS—A centered line used to take nearly twice as long. Quads had to be moved from one side to the other. But no more! Just touch this little lever and Linotype Self-Quadder centers automatically. It flushes right or left, too.

Here's an Amazing Way
Tests Have Proved to

STOP "DEMON" STATIC

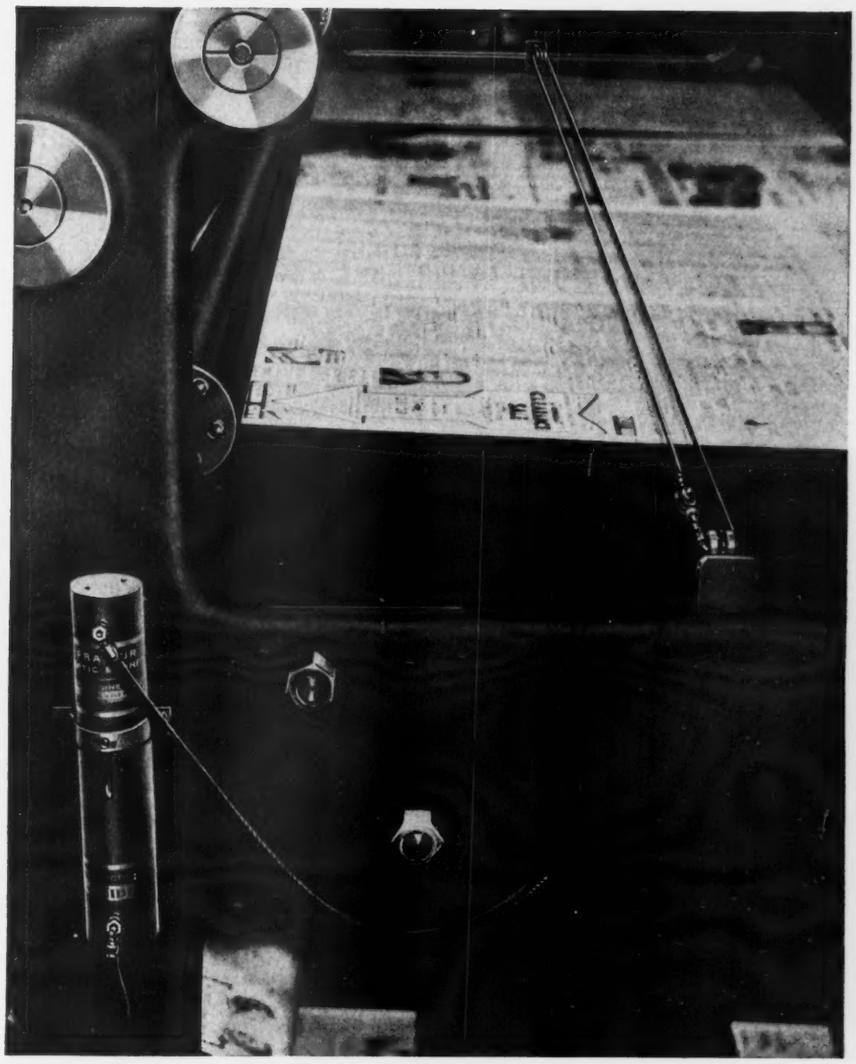
Today's triumph in the elimination of troublesome static. The most positive, simple and most effective static eliminator ever offered and the most economical to buy.



Fra-Bur Static Burner

Based on scientific principle of actually burning up and destroying STATIC, in a special patented tube filled with gas. All static electricity gathered from running webs, or fed sheets of paper or other materials is lost.

"Installed FRA-BUR STATIC BURNERS on the units giving trouble and static immediately stopped. We now secure the same production from both sextuples and our static trouble is entirely gone. I feel certain that anyone having trouble with webs, caused by static can definitely eliminate this trouble by installing Fra-Bur Static Burners. This is certainly true in my case."



Fra-Bur Static Burner attached to Goss Decker Type press

At any point where static is causing trouble, just fasten the Fra-Bur Unit on the press frame, stretch the aerial across the web, and watch the TUBE GLOW with static —that's the end of trouble.

STA-HI CORPORATION
Distributors

1020 Crocker Street
LOS ANGELES, CALIF.

417 Oregonian Bldg.
PORTLAND, OREGON

Surveys

To be made annually, recommended by composing room executive to determine need for equipment replacement, routing of production and personnel

By EARL E. ANDERSON*

THE reduction of production costs has been a topic for discussion at state and national mechanical conferences the past 10 years. Although this topic has been in the minds of the mechanical department heads, business managers and publishers, it is surprising how slow the average newspaper moves to help itself. It would seem after so much discussion at conventions that the newspaper should be the leader in efficient operation of mechanical departments. Mounting costs of producing a newspaper should make reduction in composing room operation an important study.

In my opinion, an annual survey of the composing room should be made to determine where improvements could be accomplished with reference to personnel, routing of production, equipment replacement, etc. An annual survey will reveal spots where short cuts could be taken to increase production and reduce costs.

Suggests Toner Can

Speaking before the Young Printing Executives' Club in New York recently, Christian Steidinger said: "Ink is one of the last things on which to chisel. Don't buy cheap inks. It doesn't pay because you only get what you pay for. If you want fine color printing, you can't overlook the things that make for fine work." He suggested that a can of toner be purchased for the standard shades of ink to add to inks when necessary, to give brilliancy to printing.

The composing room department head should make written recommendations in the form of a survey once each year, to be submitted to the business office where finally it should be gone over together by the composing room superintendent and the business manager. I feel sure that by use of such a plan something can be accomplished to show improvement not only in the printed sheet, but in the reduction of costs. In many cases, it may be necessary to replace old equipment with new and modern machinery, in order to maintain production standards already set. It is only keeping our house in order when we make the necessary changes or expenditures to accomplish these results.

Production standards in many plants have been stepped up to a point where it is necessary to watch every possible angle in order to go further in the reduction of costs. The salvation of the composing room superintendent is modern machinery and efficiently trained workmen. I believe once a year each employee's duties should be analyzed thoroughly. Too often, because a man has been on the payroll he becomes a fixture, although his particular duties become secondary. The composing room payroll easily gets top heavy and therefore warrants careful study. The training of workmen is up to the foreman and cannot be overlooked. A composing room cannot be filled with many men eligible for pension if standards are to be met and improved upon. The publisher has the right to expect maximum production from each employe.

At a meeting of the Illinois Newspaper Mechanical Association in Chicago, foremen, superintendents and machinists discussed their problems freely. In many cases it was stated clearly that the publishers were slow to act on recommendations of their composing room department heads. I fully realize that the business manager is the guardian of the cash box and that all departments of the newspaper want OKs on countless purchases. However, the composing room superintendent being in charge of the bottle neck of the plant has an uphill fight to maintain production standards unless he has the fullest cooperation of all departments and especially that of the business office.

Most plants set aside money for depreciation of equipment. Although this is done for a specific purpose, recommendations for replacement are too often set aside. If the annual survey I have recommended proves to the superintendent that replacements are necessary it should not be difficult to prove them to the business office.

I dare say surveys of our plants will reveal much the same conditions. Obsolete type faces can be found in all plants and it would seem that much improvement could be made along this line. Better composed ads should mean increased lineage, and revenue. This can be accomplished only with new and modern type faces.

Also, most of our plants will show weaknesses in equipment and machinery. If by our survey we are convinced that we can increase production or improve the appearance of our printed page by equipment replacement I believe an OK should be forthcoming from the business manager. It would seem to me that replacements each year when needed, would be a better solution than to let a plant get far behind and become out-of-date and finally lacking in efficiency. We must bear in mind that workmen cannot deliver top production unless proper equipment is available.

The newspaper plant should be a leader in industry in terms of efficient mechanical operation. I am sure that is not the case today. Closer cooperation of the business office and composing room will lead ultimately to results that will be beneficial to the entire plant.

As a reminder to the composing room foreman, however, I give this thought: "The only excuse for purchase of equipment and machinery is to enable you to do better work or to save payroll expense."

This article was prompted by attendance at mechanical conferences and letters I have received from various composing room foremen. Judging from these contacts, some of these men are expected to a do good job without the chance to help themselves by putting their composing rooms in order.

Closer cooperation is necessary for results. The foreman in making his recommendations must know that they will pay their way. He must not be swayed by sales talks. He must make his own investigations and recommendations. The business office should be tolerant and meet him on common ground. Through this recommended annual survey I believe much can be accomplished. At any rate it is worth a try.

*Superintendent of Composing Room, Rockford Consolidated Newspapers, Inc., Rockford, Ill.

LUDLOW Advertising Figures

$98.50

144 Point Ludlow Tempo Heavy Advertising Figures
with 84 Point Ludlow Tempo Heavy Advertising Figures

$75.90

96 Point Ludlow Karnak Black Condensed Advertising Figures
with 72 Point (Regular) Ludlow Karnak Black Condensed

$145

144 Point Ludlow Karnak Black Condensed Advertising Figures
with 84 Point Ludlow Karnak Black Condensed

$73

84 Point Ludlow Bodoni Black Advertising Figures
with 48 Point (Regular) Ludlow Bodoni Black

$98.98

84 Point Ludlow Tempo Heavy Advertising Figures
with 48 Point (Regular) Ludlow Tempo Heavy

$24

144 Point Ludlow Bodoni Black Advertising Figures
with 72 Point (Regular) Ludlow Bodoni Black

The above is a partial showing of the larger advertising figures available in matrices for casting on the Ludlow. Cast individually, lengthwise on the slug, they provide an inexhaustible supply of large price figures for use in local advertising featuring price. We will gladly send specimen sheets and quote prices.

LUDLOW TYPOGRAPH COMPANY, 2032 Clybourn Ave., Chicago

THE NEW YORK TIMES
Selects
CLINE • WESTINGHOUSE
Motors and Controls
For Their New Wood Presses

THE OMAHA WORLD-HERALD
Selects
CLINE • WESTINGHOUSE
Motors and Controls
For Their New Goss Press

THE MINNEAPOLIS STAR
Selects
CLINE • WESTINGHOUSE
Motors and Controls
For Their New Hoe Presses

THE MEMPHIS COMMERCIAL APPEAL
Selects
CLINE • WESTINGHOUSE
Motors and Controls
For Their New Presses

PURCHASE

CLINE · WESTINGHOUSE

AND BE SURE YOU'RE RIGHT

CLINE SYSTEM
UNIT TYPE PRESS DRIVE

Direct and Alternating Current

An Individual Motor Drives Each Unit and Each Folder in Any Combination

No Press Drive Shaft

No Back Lash

Perfect Acceleration

Perfect Slow Down

Perfect Automatic Brake

CLINE HIGH SPEED PASTERS, REELS and AUTOMATIC TENSION

Used in Prominent Plants

No Running Belts—Plenty of Room

Automatic Tension Control, Adjustable From Press Room. Tension Indicated on Dial

No Overrun of Rolls, Quick Stop from High Speed

CLINE SYSTEM UNIT TYPE NEWSPAPER PRESS DRIVES AND TENSIONS

Originated, Patented and Perfected by Cline

For over thirty years the Cline Electric Mfg. Co. have been furnishing electrical equipment, including Standard Double Motor Drives and Automatic Controllers and accessories for newspaper presses. For more than ten years they have been furnishing reels with tensions arranged to make flying pasters at reduced speed of the press, and have therefore been in a position to coördinate paper feeding devices with press control and make layouts of such coördinated equipments to give the greatest possible flexibility of press combinations as well as operation. Cline engineers have therefore had experience in a great number of plants. This, together with this standardized Cline equipment, has resulted in publishers, engineers, architects and press manufacturers recognizing that the engineering work of this service is a very important factor.

The coördination between the reels with automatic tension and high speed pasters for high speed presses, together with the Cline Unit Drive, gives flexibility of press combinations in a most efficient manner, and should interest any prospective purchaser of presses.

CLINE DOUBLE MOTOR DRIVES FOR MAGAZINE AND DECKER TYPE NEWSPAPER PRESSES

The Cline System Is the Most Logical for Efficient Operation and Control of the Modern Newspaper Plant

THE CLINE SYSTEM INCLUDES

Unit Press Drive and Control

Double Motor Drive and Control

Magazine Type Single Motor Control

Rotogravure and Color Press Control

Stereotype Motor Equipment

Cline Reels and Automatic Electric Tension

Cline High Speed Pasters

Paper Roll Conveyors

Plate Conveyors and Droppers

Typesetting Machine Drives

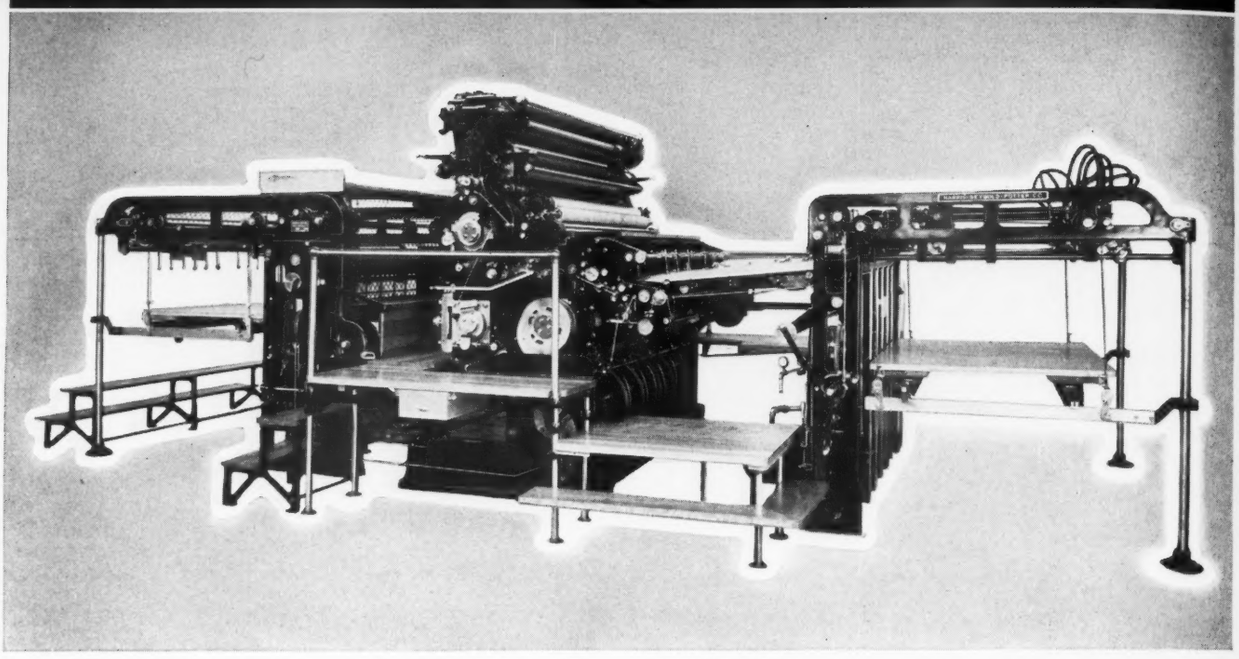
Tell Us Your Problems — Our Engineers Have the Experience and Facilities to Serve

CLINE ELECTRIC MFG. CO.

NEW YORK • CHICAGO • SAN FRANCISCO

CLINE • WESTINGHOUSE

Offset Leadership



THROUGH HARRIS PRESS BUILDING LEADERSHIP

Standardization of Litho Chemicals

Through research Harris has developed and standardized new chemicals for both deep etch and surface plate making processes. Full details upon request. Write us with reference to your lithographic problems.

OFFSET IS THE MODERN METHOD

The pressroom equipped with Harris Offset stands at a distinct advantage. It has, to begin with, a precision press that supports the craftsman's skill. It has, in addition, a background supported by the prestige of pioneer building—a Harris tradition that was begun with modern Offset and continues to justify Harris leadership.

Eight sizes of Harris Offset presses completely cover the requirements of modern business.

HARRIS - SEYBOLD - POTTER - COMPANY

PIONEER BUILDERS OF SUCCESSFUL OFFSET PRESSES

General Offices: 4510 E. 71st Street, Cleveland, Ohio. • *Harris Sales Offices:* New York, 330 W. 42nd Street; Chicago, 343 S. Dearborn Street; Dayton, 819 Washington Street; San Francisco, 420 Market Street. • *Factories:* Cleveland, Dayton

CCA

Member of Controlled Circulation Audit

PRINTING Equipment ENGINEER

Contents for April, 1939:

SURVEYS TO BE MADE ANNUALLY - - - - - - - - - 4
EARL E. ANDERSON

MAGIC FOR PRINTING GOLD INKS? - - - - - - - - - 17
STAFF WRITER

PAPER PROBLEMS - - - - - - - - - - - - - - - 18
LETTER P. OFFGRAV

ANNEX, NEW ORLEANS "TIMES-PICAYUNE" - - - - - - 19

PLANNING THE PRINTING PLANT—III - - - - - - - 26
JAMES WILLIAM THOMAS

EQUIPMENT-SUPPLIES - - - - - - - - - - - - - 22

IOWA CONFERENCE - - - - - - - - - - - - - - 25

WHAT IS IT?—X - - - - - - - - - - - - - - - 28
ADAM HENRY REISER

BAFFLE MOUTHPIECE - - - - - - - - - - - - - 34
INTERTYPE ENGINEERING DEPARTMENT

P. N. P. A. MECHANICAL CONFERENCE - - - - - - - 36

HIGH COST OF OBSOLESCENCE - - - - - - - - - - 38
JOSEPH T. MACKEY

EMERGENCY WIRE FOR 220 V. POTS - - - - - - - - 40
G. A. RIGHTER

PATENTS RECENTLY GRANTED - - - - - - - - - - 50

TECHNICAL LITERATURE - - - - - - - - - - - - 54

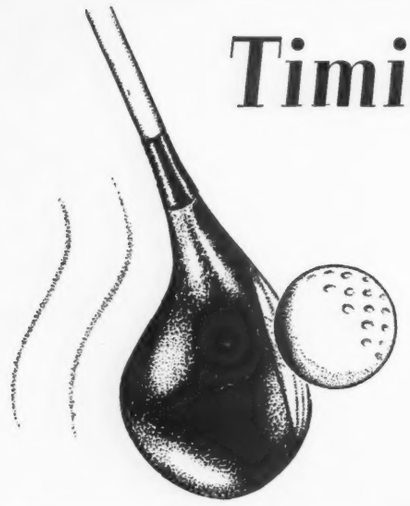
ODD-POINT MEASURE DEVICE - - - - - - - - - - 62

Printing EQUIPMENT *Engineer*, a monthly publication. Vol. 58, No. 1. Published at 1276 West Third St., Cleveland, Ohio. Don Will, Publisher. Mac Sinclair, Editor. Adam Henri Reiser, Associate Editor. Eastern Manager: Russ Birchfield, 509 Fifth Ave., New York, N. Y.; phone VAnderbilt 3-5191. Western Manager: E. P. Bloomster, 232 East Erie St., Chicago; phone SUperior 2444.

Copyright 1939 by Willsea Pub. Co.

Single copy, 25c; Reference Number, $1; subscription price per year $2 in advance. Printed in U. S. A.

A Technical Publication for the Mechanical Executive Responsible for Printing Production, Equipment and Supplies in the Commercial, Magazine, Private Plant and Daily Newspaper Field.



Timing

The best drive is made when the maximum force of your swing is applied at the moment of impact . . .

That's why progressive manufacturers of printing machinery and supplies are timing their sales drive for

THE FIFTH EDUCATIONAL GRAPHIC ARTS *Exposition* NEW YORK

Grand Central Palace
Sept. 25 to Oct. 7

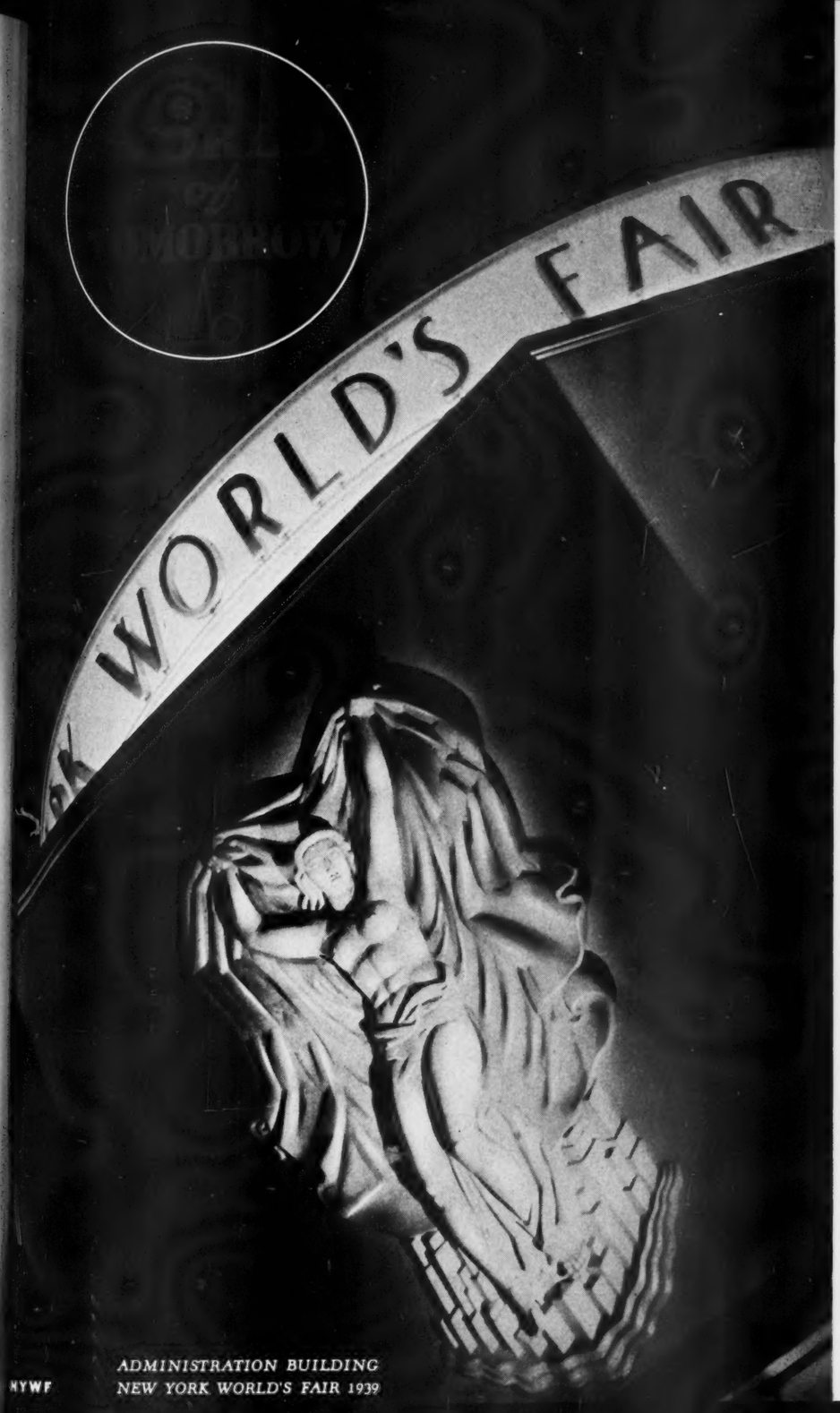
UNITED TYPOTHETAE OF AMERICA

Practically every important organization in the Graphic Arts Industry will be holding its convention in New York during that period. The delegates to these conventions—the industry's buyers—will be looking for the latest developments in equipment and supplies which will improve the productive efficiency of their plants and the quality of their product. They will want to be shown what *your* company has to offer them.

START YOUR DRIVE FOR GREATER SALES NOW!

by applying for space while you have a better opportunity for selection. Write for full information regarding space, regulations governing the Exposition, floor diagrams, and rates.

The National Graphic Arts Expositions, Inc., 480 LEXINGTON AVENUE, N. Y.



ADMINISTRATION BUILDING
NEW YORK WORLD'S FAIR 1939
NYWF

THE INK OF TOMORROW *Today!*

DULLSET is the ink for creative printing, black-and-white or multi-color... the ink that lifts a routine job into the realm of proud and profitable accomplishments. DULLSET is at once both vigorous and sensitive, giving maximum intensity, interpreting faithfully the most delicate detail modern photo-engraving can record on metal. DULLSET covers uniformly, prints incisively sharp and clean without offset or smudging, even at high speeds... makes a job breathe with dramatic reality... makes buyers exclaim, "What a beautiful piece of work!"

A glimpse into the future and a background of 98 years of research in printing ink chemistry and practical printing problems have made DULLSET yours for today's more exacting printing demands. Try DULLSET, the ink of tomorrow — today!

Dullset INKS *by* MORRILL

STANDARD OF THE PRINTING WORLD

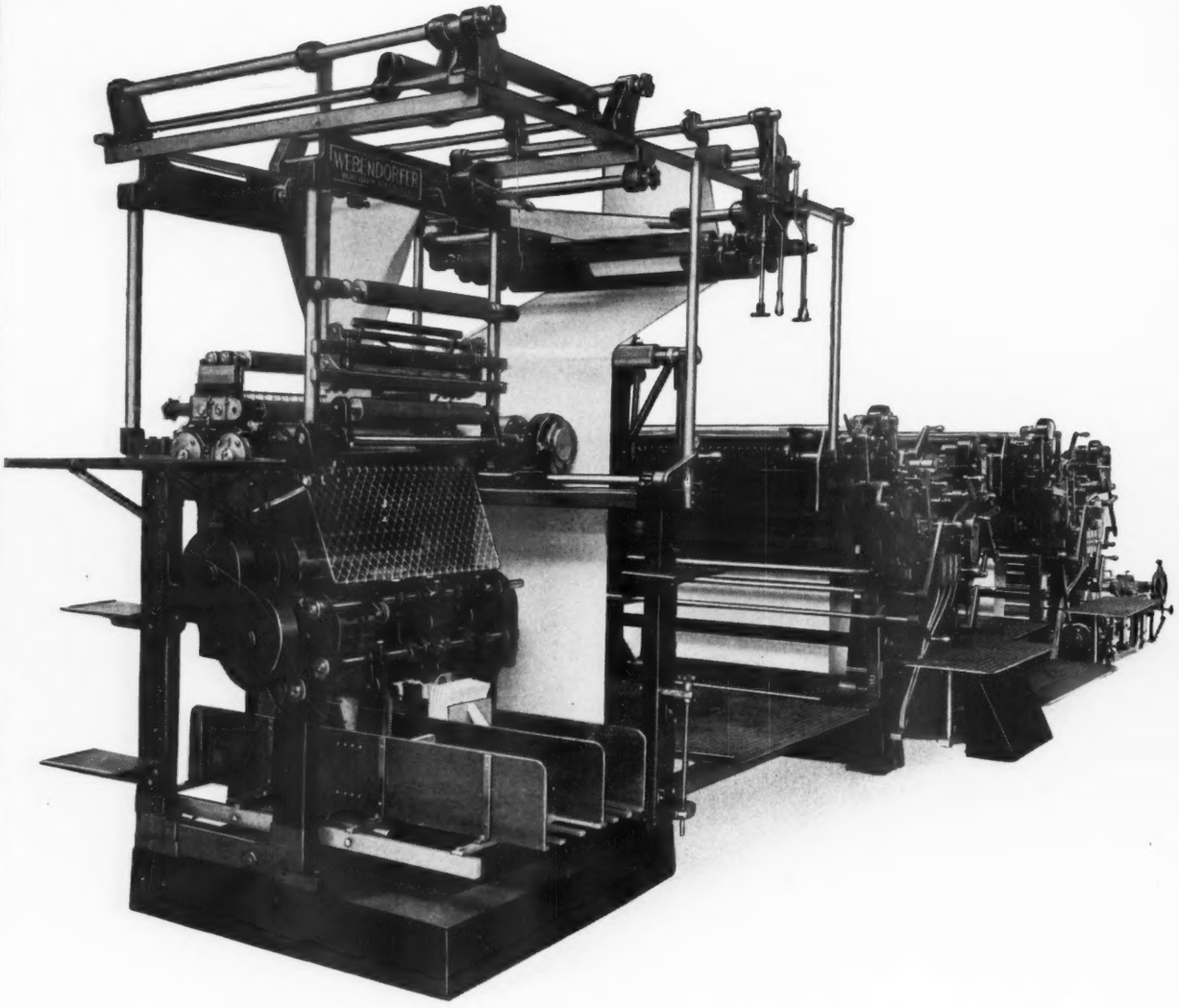
GEO. H. MORRILL CO.
Division GENERAL PRINTING INK CORPORATION
100 SIXTH AVE., NEW YORK, N. Y.

FACTORIES • Norwood, Mass. • Tacony, Phila., Pa. • Chicago, Ill. • San Francisco, Calif.
BRANCHES • Boston • New York • Philadelphia • Detroit • Chicago • St. Louis
Minneapolis • Fort Worth • Los Angeles • San Francisco • Seattle

MORRILL *Ink* RESEARCH

"... at the ELBOW of the PRINTER

HERE'S HOW TO DELIVER THE GOODS



THIS is a four color Webendorfer Web Reel Fed Offset Press for Conde Nast Publications lithographing two colors on both sides of the web and delivering magazine signatures completely folded at 20,000 to 40,000 per hour.

Investigate the economy and other advantages of Web Reel Fed Offset for magazines, newspapers, labels, salesbooks, letterheads, checks, etc.

Write us today for Web Reel Fed Offset Press samples and recommendations for producing the work you have in mind.

Exhibitor in Fifth Educational Graphic Arts Exposition, Grand Central Palace, New York, September 25th to October 7th

WEBENDORFER-WILLS CO., INC.

Builders of printing machinery for over thirty years in Mount Vernon, N. Y., U. S. A.

THE NAME OF BINGHAM

has stood for superior rollers among printers all over the country for many years. BINGHAM composition rollers have ALWAYS been the leaders in the field.

FOR MORE THAN TEN YEARS

BINGHAM has been making newspaper and magazine press rollers of natural and synthetic rubber compounds, CONTINUING the tradition of leadership and service by producing a superior roller at a price which commands respect.

THE SIXTEEN BINGHAM FACTORIES,

manned by experienced roller makers, are equipped to serve their customers with economy and convenience. And, as an added service, BINGHAM has recently supplied its branches with facilities for polishing and regrinding rollers.

SAM'L BINGHAM'S SON MFG. CO.

CHICAGO

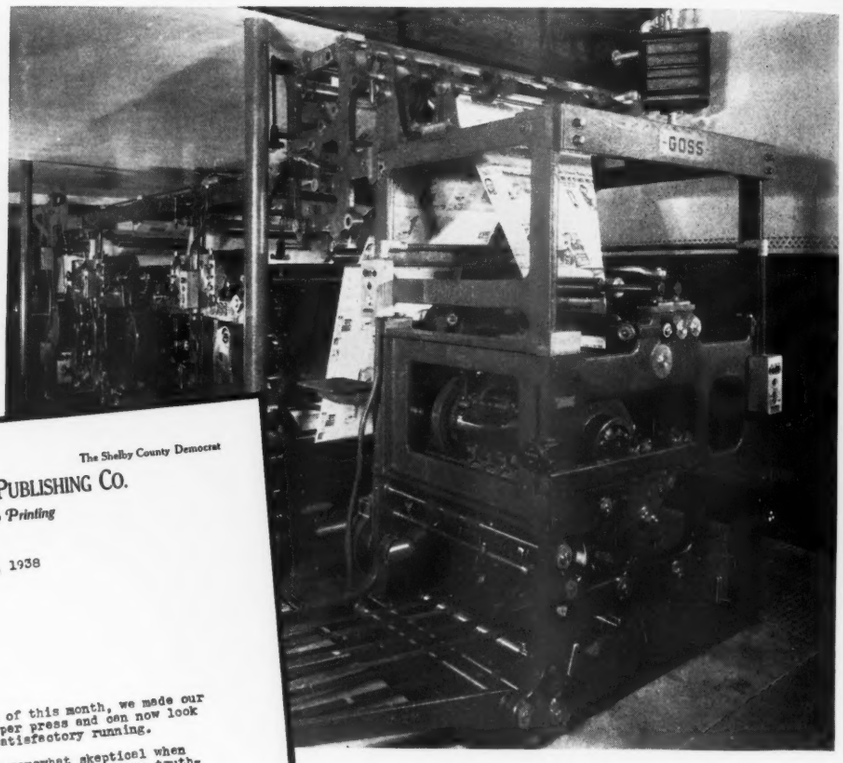
ATLANTA	CLEVELAND	NASHVILLE	DES MOINES	DETROIT
DALLAS	HOUSTON	INDIANAPOLIS	KALAMAZOO	KANSAS CITY
ST. LOUIS	MINNEAPOLIS	PITTSBURGH	SPRINGFIELD, O.	OKLAHOMA CITY

Millions of Copies . . .

. . . But Not One Cent for Repairs

GOSS

Unitube Press



The Sidney Daily News — The Shelby County Democrat

THE SIDNEY PRINTING AND PUBLISHING CO.

Advertising, Book and Job Printing

E. C. AMOS, Pres.
M. A. AMOS, Vice Pres.
WILLIAM T. AMOS, Sec.
J. OLIVER AMOS, Treas.

119 Court Street
SIDNEY, OHIO
December 22, 1938

Mr. C. S. Reilly
Goss Printing Press Company
Chicago, Illinois

Dear Mr. Reilly:-

Just two years ago the ninth of this month, we made our first run on our Goss Unitube newspaper press and can now look back over two years of 100 percent satisfactory running.

If you will remember we were somewhat skeptical when first approached on buying a Goss Unitube press but can truthfully say now that we are perfectly satisfied with the choice we made.

We have turned out millions of newspapers and scores of circular runs during that period and as yet have spent not one cent for press repairs. In fact we have never had a blanket off the impression cylinder and we are still using the original cutting rubbers in the folder. Not once during that period of operation have we had a paper wrap or jam that would cause the shearing pins to break but we have a certain sense of protection knowing that they are there.

The press has performed up to our expectations in every respect and is the most flexible piece of equipment in our shop. In fact, we are still finding out new uses for it almost weekly.

It was with pride that we welcomed your representative, Mr. Yagow, and his prospective buyers to inspect our plant this week and hope that their visit here has paved the way for your company to complete another Unitube sale.

At the present time we are going out after some circular work that we were unable to touch when opereting under the flatbed system. We have turned out several fair jobs and have a nice run of 100,000 coming off next week using light blue and black inks.

Here's wishing you a very MERRY CHRISTMAS and a PROSPEROUS NEW YEAR.

Very truly yours,
Cecil Watkins
Mechanical Superintendent

CLW'MG

Installed at Sidney Printing and Publishing Company in 1936

This performance record speaks for itself! Over two years ago, The Sidney Printing & Publishing Co., Sidney, Ohio, made the first run on its Goss Unitube Press. Since then, says the mechanical superintendent, millions of newspapers and scores of circulars have been turned out with not a cent for press repairs. In fact, they have never had a blanket off the impression cylinder. Not once have they had a paper wrap or jam . . . "The press is the most flexible piece of equipment in our shop. We are still finding new uses for it almost weekly." . . . What more need be said? Except to urge you to investigate the advanced Unitube features and write immediately for complete description and specifications.

The Goss Printing Press Company, 1535 S. Paulina St., Chicago

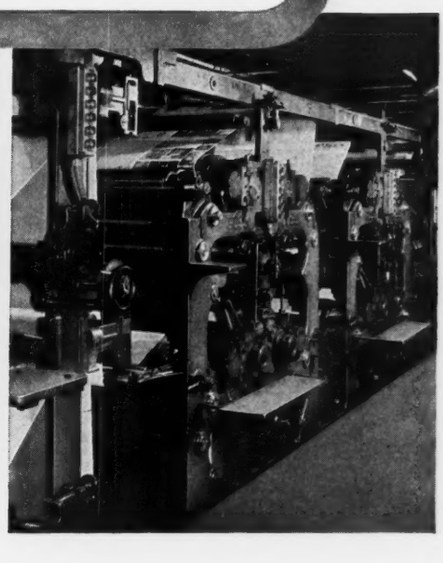
NEW YORK: 220 E. Forty-Second St.
SAN FRANCISCO: 707 Call Building
Goss Foster, Ltd., London, England

GOSS

"In 3½ years we have not changed a single one of our 77 Daycos"

SAYS A. J. HARTLEY, PRESSROOM SUPERINTENDENT OF JANESVILLE (WISC.) GAZETTE

Newspaper plants the country over tell the same story—an old story to us—but a brand new story to those who have not learned from actual experience how Dayco "Stayput" Rollers run up records for trouble-free mileage.



Out in Janesville, Wisconsin, the "Gazette" installed a new press some years ago—and debated about equipping it with Daycos. But listen to what Mr. A. J. Hartley, Pressroom Superintendent, says today! "We rather doubted the wisdom of installing a new product when we bought our new press, but *am I glad we took the chance!* 77 rollers in our press—for 3½ years—*winter* and *summer*. During all that time I have not changed a single roller—and have set them just twice. And they look good for years more work."

That's a typical Dayco story, ably told by Mr. Hartley! It's this way—the *entirely different* construction of Dayco "Stayput" Rollers gives them superior inking characteristics in materials of extraordinary durability. Daycos have the right consistency and affinity for properly distributing and depositing ink. With Daycos, presses can run at top speeds under any climatic conditions. They are ink and wash-resisting. There is no ink penetration. No soft spots. No blisters. And they can be stored indefinitely without deteriorating.

Why not get actual figures and case histories of Dayco Rollers savings in time, money, and trouble for large and small newspapers? Just write for the data on longer life, faster work, and better printing with

DAYCO "STAYPUT" ROLLERS
Made Especially for Newspapers
Distributed by
GEO. H. MORRILL COMPANY
Division General Printing Ink Corporation

★ ★ ★

THE DAYTON RUBBER MFG. CO.
DAYTON, OHIO
The Originators and Pioneers of Synthetic Rubber Printing and Lithographic Rollers

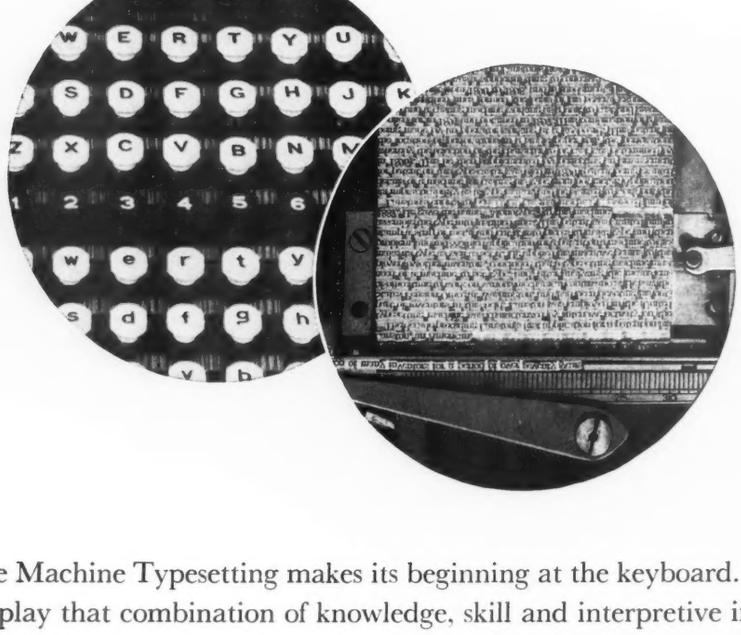
Dayco Rollers

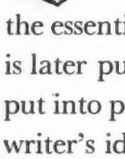
The Original Synthetic Rubber (D) Printing and Lithograph Rollers

THE ALL-PURPOSE ROLLER FOR FORM, DISTRIBUTOR, DUCTOR, ETC.

DAYCO BASE AND RENEWABLE SURFACE CAN BE APPLIED TO ANY STOCK

A Perfect, Flexible Medium
FOR PUTTING IDEAS INTO PRINT





Monotype Machine Typesetting makes its beginning at the keyboard. There the operator puts into play that combination of knowledge, skill and interpretive intelligence which is the essential basis of good composition. His work, as he taps key after key to punch the paper ribbon, is later put into type at the casting machine. From the caster the type emerges in lines to be later put into pages for printing—and are presented to the reader's eye as a faithful interpretation of the writer's ideas, visions and moods.

Time and place have no meaning to the perforated strip of paper produced by the operator at the keyboard. For it may at any time and at any place be put into use in any Monotype type-caster and there perform its function of putting into type the intentions of the master craftsman who produced it at the keyboard. This ability to do either keyboarding or casting at will is one of the advantages inherent in the Monotype Typesetting Machine, and is an exclusive Monotype feature.

The Monotype permits—as no other machine permits—the buyer of printing, the writer, the publisher, the advertiser, to put their thoughts and ideas into type without restriction or limitation. If they can be put into type at all, they can be set on the Monotype at machine economy and speed—in clear, crisp single types, correctly spaced for good printing.

The Monotype is the perfect, flexible medium for putting ideas into print. Through its use the owners of printing plants and typographic service houses have the opportunity to select which of three different methods of typesetting is best adapted to meet the requirements of any given piece of work: solely machine typesetting, solely hand composition, or a combination of both machine and hand work. *No other typesetting machine can be applied in so wide a diversity of use.*

LANSTON MONOTYPE MACHINE COMPANY

TWENTY-FOURTH AT LOCUST STREET, PHILADELPHIA, PA.

Text and signature set in Monotype Baskerville Family, Heading in Monotype Garamont and Italic

Magic

Required to print gold ink successfully? Not if you understand arbitrary requirements explained in this article

By STAFF WRITER

PRIOR to the World War, gold bronze powder was imported from Europe. During the war the manufacture of bronze powder was started in this country and has grown into a great industry. The major portion of this product is used in paints. Bronze powder was long used for dusting an impression in gold size but metallic printing inks did not become a familiar item in the print shop until 1924. About 1930, popular magazines used metallic ink in advertising pages and are still among the largest users. While used frequently in commercial printing plants, magazines and label printing plants remain the largest users.

Aluminum paste is obtained by the wet grinding of aluminum chips with a mineral thinner like varnolene and a small quantity of stearic or other fatty acid which cause the pulverized aluminum to flake and glitter when mixed with suitable varnish. From this paste ready-to-use aluminum inks are made which retain their glitter and drying property a long while in the tinned ink can without tarnishing. Experiments in the same direction with the gold pastes have met with little success but persevering research will probably achieve a dependable gold paste. Most printers mix gold ink just before using it.

Rollers for Gold Ink Printing

Available varnishes are few because many spoil the glitter of the powder. Those which are suitable are soft (thin) and lack sufficient tack to hold the particles of brass in suspension very long. Since the gold ink lacks tack, this property is required in the rollers, so that they may carry both the powder and the varnish and counteract the tendency to separate. While hard, glassy rollers are useless, a seasoned roller is preferable to a very soft one which dips down in the depressions and spreads the ink on the shoulders of the type. Besides tack, roundness of the roller is essential. The rollers should just ink the surface of the form and if the roller is out of round, its low spots cannot be utilized withous squashing from its higher spots. Good rollers, set at light as practicable on the form, are half the battle. From this it may be inferred that new forms are preferable, not only for light roller pressure but also for moderate squeeze in the impression. Strong pressure must be avoided in both inking and printing to avoid squashing of the soft ink on the edges of the units of the form.

Agitating Gold Ink

Constant mechanical agitation in the fountain is especially helpful with this ink. Without an agitator, the fountain may be fitted with the device that turns the steel fountain roller opposite to the regular direction, *i.e.*, upward instead of downward, either constantly or at intervals, thus counteracting separation of varnish and powder. Without these aids, the fountain ink should be stirred up frequently with an ink knife. The pawl and ratchet (dog) may be used to counteract separation by taking fewer teeth in a throw than customary by opening the fountain screws somewhat wide, thus allowing a narrower but thicker ridge of ink to leave the fountain for each impression.

While the form rollers should ride the form very lightly, the fountain ductor and the angled distributor rollers should have good contact with the ink plate and the steel vibrators on both form and distributors should have sufficient contact to prevent slipping as the form passes under the rollers (especially with solid plate forms) and the ink plate under its distributors.

Makeready

For light roller pressure, the form in all its units should be level and type high. If the form is new, as it should be, hard packing is better; if not badly worn, one sheet of light weight newsprint may be carried next below the drawsheet or tympan. Badly worn forms are hopeless as they cannot be jammed by the rollers and the impression without squashing.

The press should be inked with black ink for makeready and it should be thorough. Not quite normal squeeze is needed because gold ink is best run with full color—never scant. Since the advent of the non-offset spray gun, full color without offset is practicable with no need of slipsheets. The sheet heater should not be used. The tung oil varnish is treated to dry well and with heat on the delivery drying is not normal.

After makeready seems complete, waste sheets should be run, with a sheet of stock at intervals, until the fountain can be set, after this the press is washed up for gold ink or the press may be washed up, fountain filled with gold ink and set, whichever is more convenient with the aim of not allowing the gold ink to dry while

Pass It Along

Mechanical and production executives know the weaknesses and the strong points in their plants. Consequently, they endeavor constantly to devise ways and means for improving production methods or in trying to improve mechanical operation.

Have you noticed that many executives want other executives to have the benefit of their investigational work through *Printing* Equipment *Engineer*? If you have succeeded in accomplishing something worth while, why not tell our mechanical and production executive readers about it? Because you're most always busy, just write about it on proof paper, tear sheets or any old kind of paper with a pencil and send it to

Mac Sinclair, *Editor*.

Paper Problems

By LETTER P. OFFGRAV*

No Perfect "Standard" Paper

Why does a printing plant that is equipped with conditioning machines, humidifiers, gas burners, neutralizing bars, spray equipment, etc., still find it difficult (almost impossible) to run standard papers manufactured in paper mills with the best of chemists and laboratory equipment?

THE equipment listed is sufficient, when properly used, to eliminate many of the troubles commonly experienced in printing plants. It must be assumed, in answering this question, that the printer knows how to use the equipment. Unfortunately he does not state definitely just what troubles he has with the paper, whether they are due to wrinkles, misregister, static, or what have you.

It can be safely assumed that with humidifiers in the plant there is some degree of humidification in the winter months when the atmosphere is normally very dry. It may be that the trouble is due to the way in which he orders his paper for use under such conditions. If a printer has his plant humidified he should so state on his orders, and also state what relative humidity is maintained. If his orders are sufficient for a mill order the paper can be pre-conditioned to fit his pressroom conditions, provided the relative humidity required is not over 45 to 50%.

There is no "standard" paper that will give perfect register, lay flat, not develop wavy edges or tight edges, or show static when subjected to changes in atmospheric conditions. If paper is received rather dry, as is usual in winter shipments of unconditioned paper, the moisture content will be lower than that required for a balance with the air in a humidified pressroom. Putting such paper through a conditioner, provided the air used is the same as that in the pressroom, will help bring the moisture content of the paper up to that of the room in which it is to be printed. Heavy or hard-sized papers respond more slowly to such treatment than do papers which are sensitive to moisture, and often develop cockles or other dimensional variations that sometimes cannot be eliminated.

**Another in a series in response to problems propounded by mechanical and production executives in a questionnaire sent out by* Printing Equipment Engineer. *Mr. Offgrav will reply to additional problems in future issues.*

the press stands. After final OK a continuous run is helpful whenever practicable.

Variables Cause Trouble

Gold ink is not the intimate mixture of varnish and pigment so common with regular inks which results in a plastic body in which the varnish and powder are thoroughly blended. Some ink makers supply gold ink varnish in two degrees or steps of viscoscity, regular and heavy, but both are soft. The powder supplied by all reputable firms is the same, the best grade of lining powder. To combat the variables, there is nothing but the two soft varnishes and the single powder.

The first variable is the paper, no two runs of which can be guaranteed alike and not even a paper expert can tell how much casein and starch are mixed in the coating of a sheet not of his own manufacture. Litho label, c.o.s., (coated one side) is very largely used with gold ink and label printers know this paper may come with either a soft or a hard finish from the same mill. This presents no problem for regular inks because of the wide range of soft, medium and heavy halftone inks. But gold ink varnish filters rapidly into a very soft coating, leaving the powder like a frost on the surface, which is easily rubbed off; it will dry on a hard surface, but like any soft ink, prints streaky and mottled. The lesson is: Since the conditioning range of gold ink is very limited, just two steps of varnish, we must go into reverse and suit the paper to the ink instead of contrariwise as with regular inks. This is the answer to many prayers!

First, shop around until you find the best gold ink mixture for your line of work. Second, shop around until you find the paper you ascertain to be best adapted to your gold ink. In addition, careful check must be kept on paper and a run should not be started until you are sure there is enough paper, either inclined to a soft or a hard finish, to complete the run.

Another variable is the ink. The proportion of varnish and powder in the mix is calculated for an average temperature of 70 deg. as the best for the sections where most ink is used, *i.e.*, on the sea coasts and the shores of the Great Lakes, or at sea level approximately. Gold ink works best at 75 deg. like most other inks because this temperature is necessary to keep metal parts of the press such as fountain, ink plate and bed warm and the mix can be suited to this temperature. The important requirement is to maintain this temperature. A difference of 10 deg. makes a radical change so that it performs

(*Continued on Page 59*)

Annex

Building for New Orleans TIMES-PICAYUNE and STATES newspapers now occupied by mechanical departments—built especially for newspaper operation

By STAFF WRITER

ALTHOUGH it would make an imposing structure in itself, what is termed the Annex has been completed and is now occupied by the mechanical departments of the New Orleans *Times-Picayune* and New Orleans *States*, and in which over 600 employees work to produce the two papers. The enlarged *Times-Picayune* and New Orleans *States* building occupies a site fronting 228 feet on North Street and extends back 84 feet along Camp Street and in the block toward Poydras Street.

The annex is of modern construction and was designed especially as a newspaper plant. The building conforms generally to the architecture of the original building which has housed the newspaper activities since 1919. Construction is of reinforced concrete beam, slab and columns resting on pile foundations with brick and stone facing to correspond to the older building.

The front of the new annex is characterized by newer-type windows which embody steel sash for almost continuous windows between main concrete columns and at the fifth floor glass bricks are used for still greater light penetration for the new engraving department.

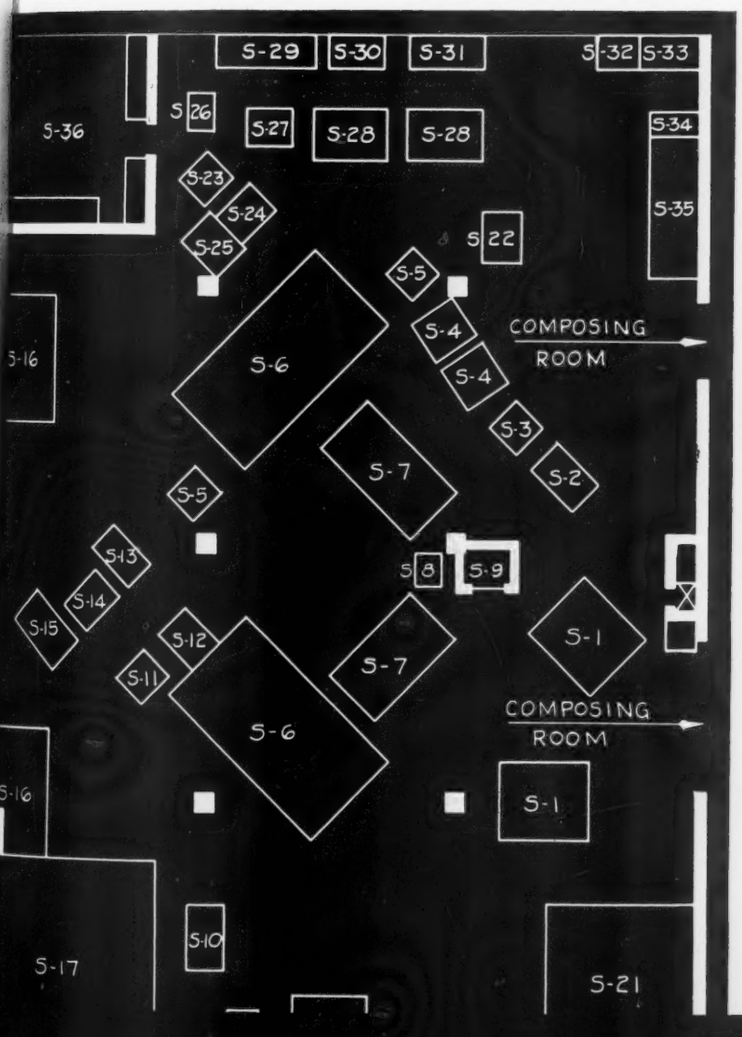
The new building is of modern interior design with each floor prepared for the particular need of the department located there, but generally utilizing a brighter color scheme that is enhanced by attractive trim in natural wood hues of light tone.

In addition to the new annex, a special loading shed has been constructed on Poydras Street. Conveyors carry freshly printed papers from the presses to a tying table and then they slide down a chute to the shed where they are loaded into trucks for delivery. The shed is also used for unloading newsprint from trucks for storage in the basement of the new annex.

In the basement are located the presses upon which are printed the New Orleans *Times-Picayune* and the New Orleans *States*. Besides housing the large battery of presses, the basement is utilized for storage of newsprint. These rolls are moved on trucks which operate on a track below the floor level, so that the paper is merely rolled on the truck and is pushed to the various presses with greatest efficiency. The first floor contains business offices. The second floor of the new annex is occupied largely by the circulation department and the mailroom. Management and advertising offices occupy third floor office spaces. Equipment for maintenance activities of the newspapers, including paper cutters, job shop, carpentry department and similar activities also are located on the third floor but are walled off from the offices with which the public has contact. The news room was the principal beneficiary in acquiring space on the fourth floor, since it occupies the entire fourth floor with the exception of a narrow strip at the rear where are situated photographers' darkrooms and studio, freight elevator and stairway and passenger elevator. The composing, stereotype and engraving departments occupy the fifth floor.

Pressroom

The pressroom is in charge of Superintendent Peter G. Prassinos. The equipment consists of a new six-unit



Stereotype Department

Layout in New Annex of New Orleans *Times-Picayune* and *States*.

S-1 Matrix Molder
S-2 Packing Table
S-3 Matrix Cutter
S-4 Stahi Autoformer
S-5 Mat Scorchers
S-6 Metal Pots and Junior Autoplates
S-7 Autoshavers
S-8 Plate Table
S-9 Plate Elevator to Pressroom
S-10 Comic and Color Packing Table
S-11 Curved Scorcher
S-12 Vacuum Curved Box for Comic Plates
S-13 Tail Cutter
S-14 Plate Table
S-15 Curved Plate Shaver
S-16 Curved Plate Routers
S-17 Nickel-Plating Department for Color Plates
S-18 Tail Cutter
S-19 Humidor for Mats
S-20 Moistening Machine for Mats
S-21 Remelting Pot for Composing Machines
S-22 Job Work Packing Table
S-23 Flat Scorcher
S-24 Flat Casting Box
S-25 Job Metal Pot
S-26 Table for Job Work
S-27 Saw for Flat Work
S-28 Flat Routers
S-29 Flat Shaver
S-30 Flat Trimmer
S-31 Work Bench
S-32 Stereotype Superintendents's Desk
S-33 Table
S-34 Locker
S-35 Storage Locker for Supplies
S-36 Dressing Room and Lockers for Stereotypers

Hoe Arch-Type Press, a Hoe Z-type 6-unit press, Hoe Z-type 5-unit press or a total of 17 black units. On the Arch-type press, Hoe high-speed reels and pasters are used. Kohler reels and pasters are used on the Z-type presses. Mostly, General Electric motors are employed for driving the presses.

A Scott 8-cylinder press is employed for printing color. For the new Arch-type presses, a 4-color device is used and auxiliary 2-color devices are used on the Z-type presses.

To give some idea of the capacity of the pressroom as expressed in pages, there are four presses with a capacity for printing a newspaper of 180 pages. Two of the 6-unit Hoe presses have 48-page capacity while the 5-unit machine has 40-page capacity. The color press is of 7-column size. Upon each of the 8-column presses can be printed four pages of four colors in addition to the 40 and 48-page capacity.

Upon each of the black presses (6-unit type) can be printed 48 black and white pages and 4 color pages, or 52 pages each. The third black press, adding four color pages to its 40 black pages, can print 44 pages, or a total of 148 pages for the black presses.

The 7-column Scott press used to print comics for the *Times-Picayune* and the *States* magazine section, prints 32 pages. Thus it will be seen that the press capacity is 180 pages.

The new Hoe 6-unit press installed in the *Times-Picayune* and the *States* plant weighs 500,000 lbs. and has a capacity of 100,000 papers per hour consisting of from 4 to 24 pages in one or two sections. On the press may be printed 50,000 papers an hour consisting of from 26 to 48 pages in two, three or four sections. When the press is fully dressed with stereotype plates weighing approximately 70 lbs. each, about 3½ tons of stereotype metal is carried. The four color couples are superimposed above the black units in front of the folder. Four full pages in four colors without sacrificing black page capacity may be printed. In addition to the four-color attachment, spot color is provided for by the use of a duo-ink rail for unit-to-unit operation.

The available space for presses in the pressroom was increased from 4800 sq. ft. to 8000 sq. ft. A Jampol plate conveyor running the full length of the pressroom delivers plates to the presses. The electric power switchboard and control room, formerly located in the basement, was moved to the second floor.

Engraving Department

Photo-engraving Superintendent Charles J. Conrad has described the new engraving department of the *Times-Picayune* and *States* for readers of *Printing* Equipment *Engineer.*

"This engraving department," states Mr. Conrad, "will be one of the largest in the country when completed. Last year we used 2,078,800 sq. in. of zinc.

"Space for practically new engraving department is provided on the fifth floor adjacent to the composing room with glass brick being used to afford maximum light. It has an acid-proof floor, an air suction system to draw off fumes from chemicals used as well as fresh air ducts and open-type Duriron drain pipes which cannot become stopped. The new department occupies 3600 sq. ft. compared with the 2400 sq. ft. area in the original building.

"Among the new equipment items we are installing are McBeth lamps, saw and trimmer, etching machine, automatic burning-in stove, cooling table, large guillotine, squaring device for halftone negatives.

"The *Times-Picayune* and New Orleans *States* engraving plant also will be one of the most modern in the country. A special color department has been established. We are regularly turning out beautiful 4-color pages. This department is equipped with its own color proofing press. Engraving department proper will be equipped with a large Chemco strip-film camera with disappearing screen; three full-page wet-plate cameras in a walled-off room. All dark rooms are independent, with windows opening into engraving stripping room, which saves engravers many steps and time. All departments have air hose to clean cameras and machinery. The etching room will have three full-page etching machines, two modern burning-in stoves and coolers, three new and

(Continued on Page 30)

Key to Floor Plan in Composing Room of New Orleans "Times-Picayune" and "States", Divided into Four Major Departments

Composing Room

C-1 Belt Copy Carrier from Newsroom
C-2 News Copy Desk
C-3 News and Market Line-casting Machines
C-4 Associated Press Printer for Markets
C-5 Western Union Printer for Races
C-6 Western Union Baseball Ticker
C-7 Tube Dispatch from Classified Department
C-8 Head Dump
C-9 News, Market and Classified Dump
C-10 Electric Proof Press
C-11 Belt Copy Carrier to Proofroom
C-12 News Correction Bank and Storage
C-13 Storage Bank for Corrected News Matter
C-14 Flat-top Bank for News Type and Storage Below
C-15 60-Page Makeup Trucks
C-16 Double Rack for Column Rules, Leads, Slugs, Dashes
C-17 Makeup Foreman's Desk
C-18 Saw for Makeup
C-19 Form Lift File (Storage 16 Pages)
C-20 Storage for News and Feature Type, 300 Single-Column Galleys
C-21 Classified Flat-top Bank, Storage Below
C-22 Page Bedless Proof Press
C-23 Makeup Editor's Desk
C-24 Ring Line-casting Machine
C-25 Headletter Line-casting Machines
C-26 Saw for News Bank

Proofreaders' Room

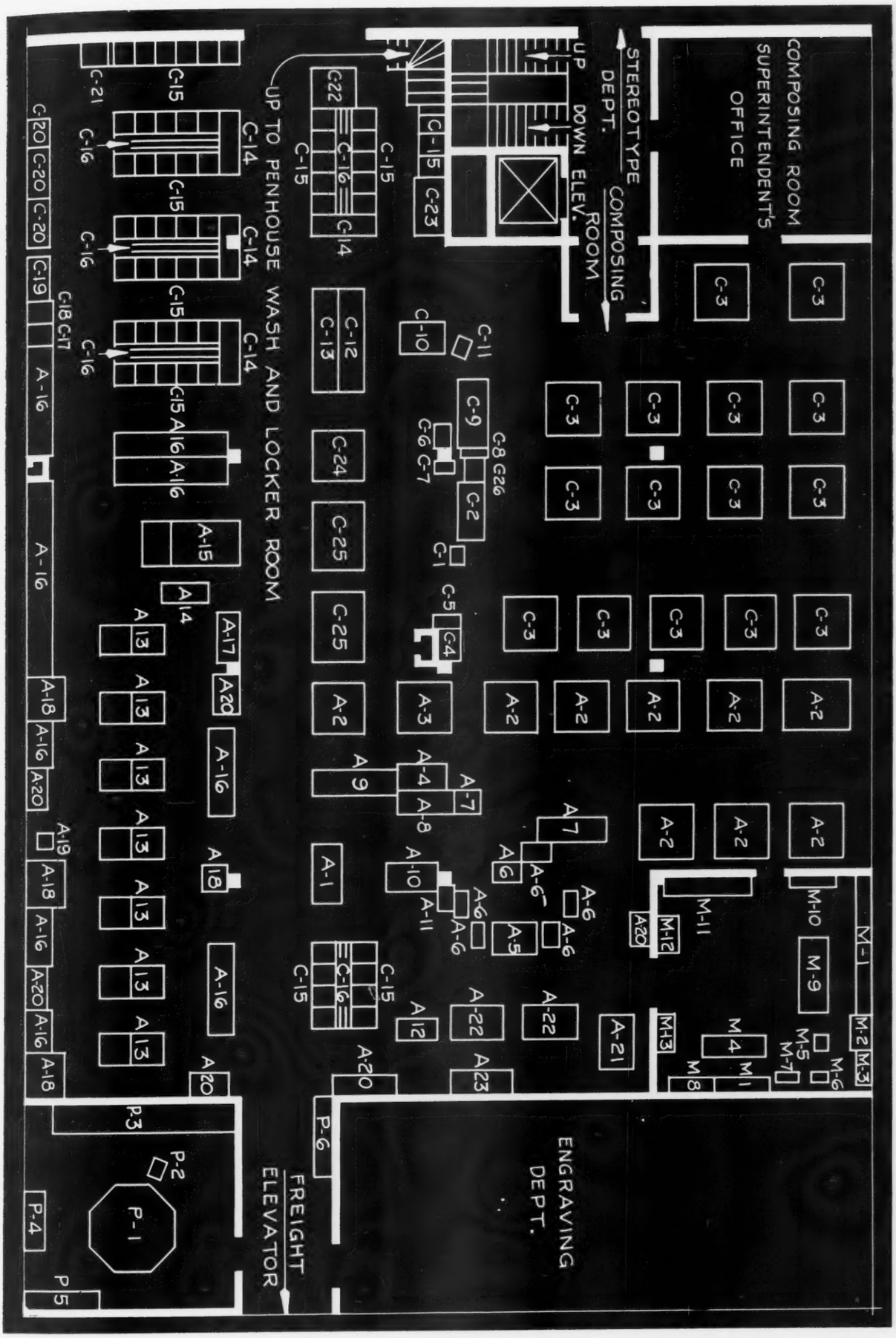
P-1 News Proofreaders' Desk. Accommodates Head Proofreader and Seven Readers
P-2 Belt Copy Carrier to Proof Press
P-3 Ad Proofreaders' Desk
P-4 Desk With Built-in Storage for Reference Books, etc.
P-5 Storage Cabinet for 30 Days' News Copy
P-6 Storage Cabinet for 30 days' Ad Proofs

Ad Room

A-1 Ad Foreman's Desk
A-2 Display Ad Typecasting Machines
A-3 Display Ad Typecasting Machine and 12 Extra Magazines
A-4 Display Ad Typecasting Machine Magazine Rack
A-5 Ludlow Casting Machine
A-6 Ludlow Matrix Cabinets
A-7 Display Ad Machine Dump Table
A-8 Rouse Band Saw
A-9 Ad Bank With Built-in Storage
A-10 Flat-top Table, Built-in Storage for 30 Days' Proofs
A-11 Filing Cabinet for Ad Copy
A-12 Cut Cabinet
A-13 Ad Assembling Banks, Room for Two Men Each
A-14 Flat-top Table for Ad Proof Press, Built-in Storage for Proof Paper
A-15 Vandercook Page Proof Press
A-16 Flat Working Top Tables With Built-in Ad Storage
A-17 Form Lift File (Storage 16 Pages)
A-18 Saws Housed in Metal Guard
A-19 Rouse Mitering Machine
A-20 Storage for Monotype, Slugs, Leads, Rules and Base
A-21 Monotype Giant Caster
A-22 Monotype Strip Casters
A-23 Monotype Operator's Work Bench and Tool Cabinet

Machine Shop

M-1 Machinists' Work Bench
M-2 Cabinet for Small Machine Supplies
M-3 Small Work Bench and Jewelers' Lathe
M-4 Machinists' Lathe
M-5 Power Drill Press
M-6 Power Emery Wheel
M-7 High-Speed Buffer Wheels
M-8 Wood Trough, Hot and Cold Water for Cleaning Machine Parts
M-9 Metal Table for Cleaning Purposes
M-10 Tool Cabinet
M-11 Storage Cabinet Supplies, etc.
M-12 Head Machinist's Desk
M-13 Matrix Storage Cabinet


COMPOSING ROOM
SUPERINTENDENT'S OFFICE
STEREOTYPE COMPOSING ROOM
DEPT.
UP
DOWN ELEV.
UP TO PENHOUSE WASH AND LOCKER ROOM
ENGRAVING DEPT.
FREIGHT ELEVATOR
C-3
C-2
C-1
C-4
C-5
C-6
C-7
C-8
C-9
C-10
C-11
C-12
C-13
C-14
C-15
C-16
C-18
C-19
C-20
C-21
C-22
C-23
C-24
C-25
C-26
A-1
A-2
A-3
A-4
A-5
A-6
A-7
A-8
A-9
A-10
A-11
A-12
A-13
A-14
A-15
A-16
A-17
A-18
A-19
A-20
A-21
A-22
A-23
M-1
M-2
M-3
M-4
M-5
M-6
M-7
M-8
M-9
M-10
M-11
M-12
M-13
P-1
P-2
P-3
P-4
P-5
P-6

Equipment - Supplies

Improved Operating Gauges For Paper Drills

Challenge Paper Drilling Machines are now being offered with improved operating gauges according to Challenge Machinery Co.

An Automatic Trip Gauge automatically trips the side guide latch as each hole is being drilled, so that the guide is free and can easily be pushed to the next station by the pressure of the stock against it. Both of the operator's hands remain on the stock throughout drilling operation. The only time the side guide is touched is to return it to its starting position.

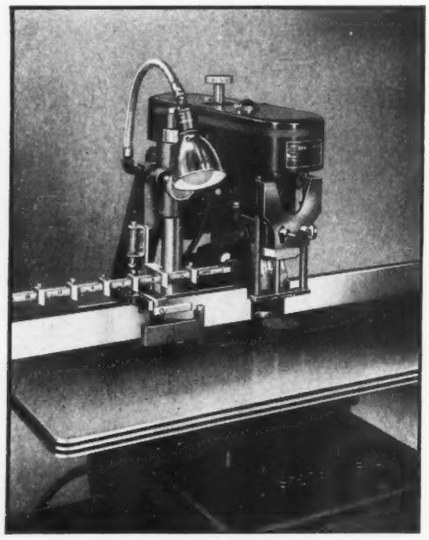
The set-up is made by removing the guide-bar and setting the gauge collars at the proper position on an etched Lufkin scale.

In operation, operator places a pile of paper under the drill at the starting position. As the first hole is drilled, the side guide is automatically tripped. The operator pushes the stock to the left, moving the guide to the next position without touching it. This operation is repeated until the required number of holes is drilled. The operator then removes the stock from the table, returns the guide to the first station, and places another lift under the drill.

A fully automatic back gauge is available for current models of Challenge Drills on special order. This gauge operates from start to finish without being touched by the operator. Powered by a small motor and operated by a chain drive, it moves from station to station and returns to starting position automatically. The set-up process is the same as on the automatic trip gauge, but the operator need pay no attention to the side guide from the time the first hole is drilled until the job is completed. All that need be done is to press and release the foot pedal and handle the stock.

The automatic trip gauge (standard) and the fully automatic back gauge (special) are regularly furnished with six stops; more can be added at any time.

P-Double-E File No. 6H.



View of Challenge Paper Drilling Machine supplied with uniform operating gauges.

Honing Pot Crucible Wells

THE Sunnen Products Company announces a novel application of a portable cylinder hone, for the honing of line-casting machine metal pot crucible wells. The honing head consists of a frame in which are affixed two honing stones and two guides. The stones are adjustable for bore size. The honing head is fastened to a 7 in. shank by means of a universal joint connection. The shank of the hone is mounted in an electric drill for the honing operation.

Section of line-casting machine metal pot crucible showing Sunnen honing tool partly inserted in the well. The honing tool may be operated by a portable electric drill. The honing stones (two in number) are inserted in the head. Two guides are set parallel and at an angle of 90 deg. to the honing stones. The head is adjustable to clean out all irregularities in the well, leaving it fully round.

Pot crucible wells may be honed either on or off the machine. H. H. Harrington, Machinist with the Enid (Okla.) *News and Eagle*, states he has honed out a well with the Sunnen Hone by removing 0.016 in. in 20 min. time. Mr. Harrington uses an electric drill having a speed of 500 r.p.m. Mr. Harrington's procedure is as follows: First, the crucible mouthpiece is removed, metal is dipped from the pot. He then removes the pot cover and cleans the crucible throat. The pot is allowed to cool before honing the well.

To provide a support for the drill and hone, the drill is suspended on Margach metal feeder bracket with a spring strong enough to carry the weight interposed between drill and bracket. The spring permits "floating" the hone vertically in the pot crucible well while honing it.

If it is preferred to remove the crucible from the machine the well may be honed in a drill press, if means are provided for "floating" the hone so as to permit it to bore straight and round.

Pot crucible wells honed by means of the Sunnen Hone are said to be highly polished and ready for fitting in an oversize plunger.

View of Time Totalizer which registers actual working time to make easy computation of idle time of production machines.

Time Totalizers

An instrument for measuring automatically the "on time" of alternating current circuits is announced by the Production Instrument Company. The Time Totalizer, as this instrument is called, consists of number wheels geared to a synchronous motor so that they record time in hours and tenths of hours. When connected in parallel with a motor, radio, X-Ray or Diathermy apparatus, lighting circuit or other alternating current circuit, the instrument automatically accumulates the total "on time."

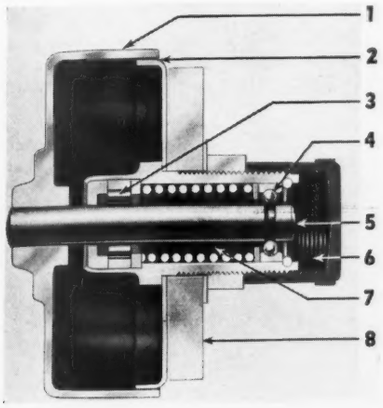
In the operation of printing presses, textile machinery, machine tools and other production equipment, the Time Totalizer registers actual working time to make easy the computation of idle time. It affords data for figuring costs and planning production, as well as a gauge for figuring income producing value of the machine.

The Time Totalizer is ruggedly built and enclosed in a dustproof case with adequate provision for mounting and convenient wiring.

Light, High-Speed Anti-Friction Idler Pulley

SKF Industries, Inc., has developed a light, high-speed anti-friction idler pulley for machines having light and medium duty high-speed belt drives. More than 1,870,000 of these units are in use on textile spinning and twisting frames and on similar drives.

The ball and roller bearing idler pulley consists of a balanced standard or special pulley *1*, which is provided with a dust-proof protective cover 2 to form an effective seal. This seal eliminates all types of abrasive dust from the relatively heavy-duty roller bearing 3, and the stabilizing ball bearing *4*. These special



bearings run directly on a through-hardened, chrome steel shaft *5*, which gives the unit a maximum capacity within its compact dimensions. The ball bearing *4* acts as an outboard bearing and insures surface-to-surface contact between the rollers and the shaft at all times. In addition, this deep groove ball bearing carries thrust loads to permit the assembly to operate equally well in either vertical or horizontal positions. Grease cup *6* is provided so that a measured amount of grease may be placed in it every second year. At the time of the unit's assembly in the factory, an adequate amount of grease is placed in the large reservoir *7* to last the initial two years' operation (approximately 10,000 operating hours). Number *8* indicates how the unit is mounted.

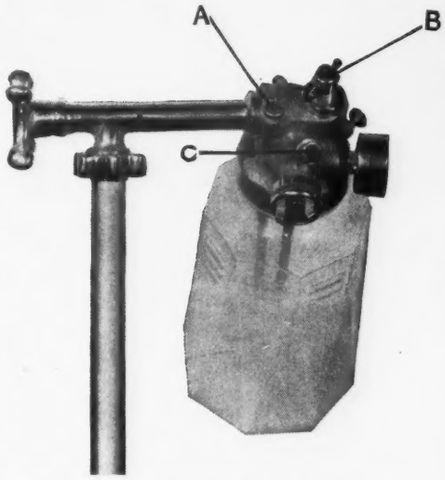
At present there are five standard sizes of crowned pulleys furnished with the unit, and each having protective covers to match: 2¾ in. by 3½ in., 2¾ in. by 1¼ in., 3½ in. by 1¼ in., 3½ in. by 1 11/16 in., 4¾ in. by by 1¾ in., with overall lengths up to 3 15/16 in.

With standard well-balanced pulleys, the argest unit of this type is rated for a minimum life of 50,000 working hours (90% will operate with an average life of five times the minimum) when running at 100 r.p.m. with an external radial load of 42 lbs., and axial thrust load against the housing shoulder of 20 lbs., or 9½ lbs. in the opposite direction. At 500 r.p.m., this external load may be 26½ lbs., and the thrust loads, 13 or 6½ lbs. At 2500 r.p.m., the respective loads may be 20 lbs. radial; 10 or 6½ lbs. thrust. At 10,000 r.p.m., the loads may be 13 lbs. radial and 6½ lbs. thrust in either direction.

Frazier Offset Gun

The Frazier Offset Gun is operated by an air agitating device which permits the use of a powder suspended in water. The gun head is shown in the illustration. A cup of offset powder is added to two quarts of water and placed in the container. The agitating screw *A* is adjusted to churn the liquid slightly. Screw *B* controls amount of spray. Adjustment at *C* is for fanning out the pattern of spray for wider distribution.

The Frazier Offset Gun is built in a variety of models. The heads, however, are alike on all models. Brackets are available as well as an adjustable floor stand for portable installation with or without compressor. Any of the devices may be connected to the air checks of flat-bed presses for air operating supply. For Miehle Verticals, a special reciprocating pump is provided. *P-Double-E File No. 5EE.*

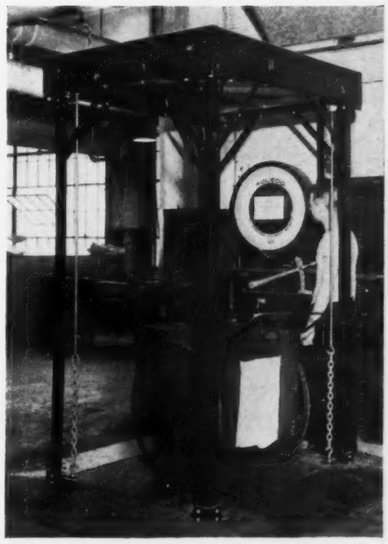


View of Frazier Offset Gun head. Operation is by air pressure. Mixture used in gun is powder and water.

Suspended Platform Scale

To facilitate the recording of ink consumption at its Springfield plant, The Crowell Publishing Company recently installed a special type of suspended platform scale.

Immediately upon receiving a shipment, the ink tanks are taken to the scale and weighed.



The ink is then poured into tank trucks for transportation to the production departments.

Crowell Publishing, it is claimed, has found the use of this type scale advantageous for publishing plants because it is easily installed, does not occupy much space and may be placed virtually in any location. If re-arrangement of plant departments is necessary, the location of the scale may be changed easily.

Eight New Sizes

Rounding out the Huxley Vertical series of foundry type, American Type Founders has recently released eight new sizes in 18, 24, 30, 36, 48, 60, 72, and 96 pt.

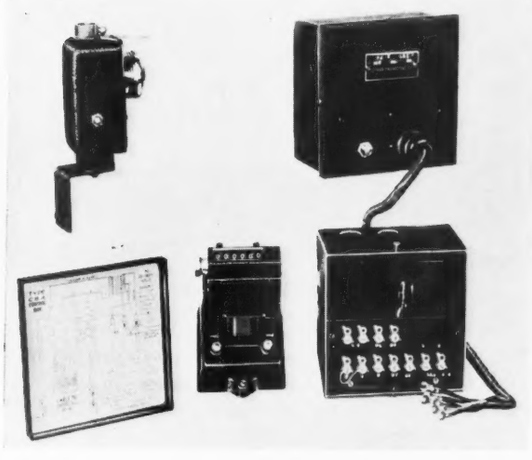
A new four page showing of the complete series from 18 to 120 pt. is now ready for distribution. Copies are available at ATF Branches or may be obtained from ATF headquarters at Elizabeth.

24 PT. HUXLEY VERTICAL

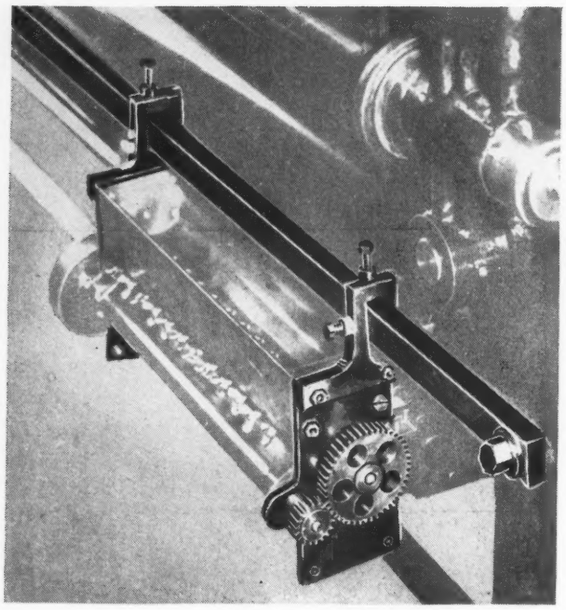
Photo-Electric Counting Equipment

Type PC-3 High-Speed Photo-Electric Counting Equipment has been announced by Lipman Engineering Company. It is said to be capable of 600 counts per minute or 36,000 counts per hour. The equipment is supplied with photo-electric amplifier and contact relay unit, light source with adjustable bracket, power supply control box and counter in four or six-digit models. Polarized plugs are used for connections and permit service or replacement of units in several seconds. Company states estimated tube life is from 7000 to 10,000 hours.

The unit is adaptable when used with various types of control cabinets which are available to a wide variety of applications such as counting, sorting, inspecting, signalling, timing, etc. Company claims tests have shown the unit will function properly over a wide range of temperature and humidity and severe vibration will not materially affect its operation.



View of Lipman Engineering Company Type PC-3 High-Speed Photo-Electric Counting Equipment for counting, sorting, inspecting, signalling, timing, etc. At upper left is Light Source; upper-right, Photo-Electric Amplifier and Contact Relay Unit; lower right, Control Box; lower center is the magnetic type counter, and at the lower left is shown wiring diagram in control box lid.



View of Riordan Auxiliary Color Fountain for Newspaper Presses, suspended on rail bolted to press side frames. Gear box cover removed.

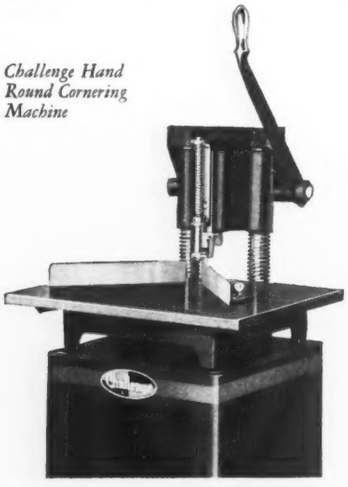
Three-Light and 48 in. Fluorescent Daylight Reflector Units

Supplementing its line of Fluorescent Daylight Units for localized application, the Miller Company announces it has broadened its line by including both flood and concentrating three-light units as well as units utilizing the newly announced 48 in. fluorescent tube. In addition, all of the Miller-Ivanhoe reflectors have been constructed with a junction box on the top of each reflector to simplify installation and maintenance. All units are now available for d.c. operation as well as standard a.c. *P-Double-E File No. 1GG.*

Hand Cornering Machine

Designed to bring round cornering operations within reach of the smaller printing plant, the Style C Cornering Machine has been announced by the Challenge Machinery Company.

The Style C machine is operated by a hand lever and will take a full 2 in. of stock. It uses the standard knife holder and knives designed for the Challenge foot-power and hydraulic machines.



Challenge Hand Round Cornering Machine

Equipment furnished includes one round cornering knife and three fibre cutting blocks. A steel stand, with shelf for accessories, is optional. *P-Double-E File No. 6U.*

Auxiliary Friction-Drive Color Fountain

The Auxiliary Friction-Drive Color Ink Fountain demonstrated by Tom Riordan at the recent S.N.P.A. Western Division Mechanical Conference is manufactured by San Antonio Roller Works, San Antonio, Tex. Fountains can be supplied for all makes of presses. Manufacturer states fountains are now supplied for six makes of presses. The rubber roller is the drive, and the ink is supplied through a rotary shaft. The fountain itself consists of a box or container with fountain roll. Keys which are adjustable, can be manipulated for delivery of ink from the container. Fountain will run in either direction. On Scott Unit-Type press, the color fountain brackets are set-screwed to the regular black fountain rail in 5 min. On the Goss Unit-Type press, the fountain is hung from a bar bolted to the side frames of the press. On the Duplex Unit-Type Tubular press the fountain supports fit into the sockets of the intermediate roller after the roller has been removed. Weight of the single-page fountain is approx. 80 lbs., and the double-page fountain weighs approx. 125 lbs. The single-page fountain holds 15 lbs. of ink and the double page fountain 25 lbs.

P-Double-E File No. 5S.

All-Purpose Stripping Machine

The "Utility" All-Purpose Single Head Stripper is being introduced by the Brackett Stripping Machine Co.

The machine, company states, is designed to turn out varieties of stripping which formerly were possible only on larger machines. It provides increased capacity for standard book work and, being of open design its capacity for length and width of work is unlimited. It is also equipped to do flat stripping, applying a flat strip along the edge of any size sheet or down the center of a 24 in. sheet.

This model can be equipped for pass book stripping, to enable the machine to side up two sides of a board at one time, handling tape up to 9 in. wide. This feature makes the machine suited for handling types of work such as cut-flush pass books.

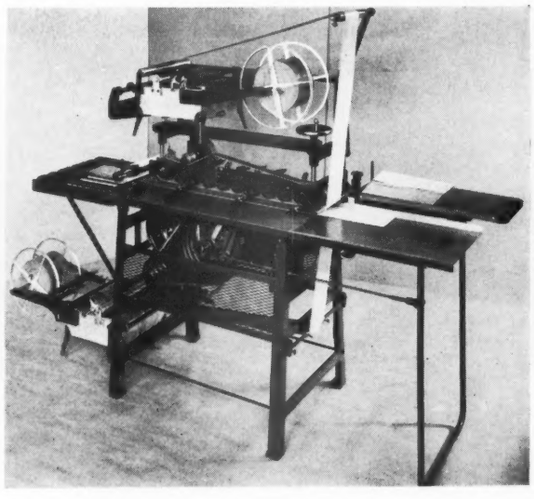
Intended for high-speed continuous duty, the machine is manually fed to a right hand guide, and will operate just as fast as it can be fed. Auxiliary feed board is placed to the right of the operator, and operation of machine is started or stopped through a foot control. Two attendants are needed—one to feed and one to take away. Power is from a direct drive "V" belt from motor with six-step grooved pulley.

The machine is supplied with six operating speeds—12, 18, 27, 42, 65 and 90 ft. per min., calculated in book travel passing through the stripper heads. Work ranging from 6 in. to 7½ in. can be fed on the first, second and third speed; work from 8 in. to 14 in. on the third and fourth, and work 14½ in. and up on fifth and sixth speeds. Automatic cut-off knife is self-adjusting to thickness of work and cuts tape on all back stripping up to 2 in. thick. It will also cut strip along edge on flat sheet if strip is not wider than 1½ in.

Delivery is of belted type with steel receiving box which will handle work up to 36 in. long. This box is equipped with back plate adjustable to short or long lengths. Standard equipment also includes double cooker glue pot of ample capacity for either hot water or glue. Accommodates tape up to 5 in. wide. Temperatures automatically controlled by thermostat, regulated to any desired heat. A warning light indicates when the glue pot is in use. The machine is 3¼ ft. wide, 6½ ft. long, plus 3 ft. for delivery box. Floor space required is 5 ft. by 11½ ft. Further details are available from the manufacturers direct or through *Printing* EQUIPMENT *Engineer.*

P-Double-E File No. 6M9.

(Continued on Page 42)



Brackett All-Purpose Stripping Machine intended for high-speed continuous duty. Manually fed. Will turn out varieties of stripping, company states, which formerly were possible only on larger machines.

Iowa Conference

Thirteenth meeting to be held in Des Moines—Speakers and topics have been arranged

PLANS for the Thirteenth Annual Iowa Daily Newspaper Conference have been developing satisfactorily. The conference will be held at Hotel Fort Des Moines, Des Moines, Iowa, on Monday and Tuesday, May 15 and 16. Last year the Iowa Conference was reorganized to take in Composing, Stereotype, Photoengraving and Pressroom executives, including composing room machinists. States represented last year were Iowa, Illinois, Wisconsin, Minnesota, North and South Dakota, Nebraska, Wyoming, Colorado, Kansas, Missouri and Ohio.

The speakers and topics of their papers are as follows:

Modernization of the Composing Room, John Collins, Chief Engineering Dept., American Type Founders.

New Developments Being Made in Web Printing Presses, Curtis S. Crafts, Chief Engineer, Goss Printing Press Co.

Vacuum Casting Boxes, R. G. Griffoul, Wood Newspaper Machinery Corporation.

Impression Cylinder Blankets, J. C. Dunn, General Sales Manager, Vulcan Proofing Co.

A Camera Man, George Yates, Chief Photographer, Des Moines *Register* and *Tribune*.

In the Group Meeting section of the Iowa conference, Chas. H. (Tod) Bleuer, Davenport *Democrat* Composing Room Superintendent, will be in charge of the composing room meetings. A representative from each of the manufacturers of the Linotype, Intertype and Linograph have been asked to attend and explain the improvements in their various machines. Mechanical Superintendent Guy Chappell of the Iowa City *Press-Citizen*, will act as chairman of the pressmen-stereotypers group meeting. It has been announced that if enough responses have been received by the time the conference opens, another group meeting will be formed for the photo-engravers.

A questionnaire card for suggesting topics to be discussed at the conference have been mailed out and are to be returned to President Ed Funk of the Waterloo (Ia.) *Daily Courier*.

Worcester Newspaper Pressmen's Union,
Local 29

JOHN J. SHEA

Whereas,

Your career as a newspaper mechanical executive began in Worcester, Mass., and you had your preliminary training while an active member of Newspaper Pressmen's Local Union No. 29, and

Whereas,

Your record as a member of this local has always been consistent with the attitude and acts which merited your promotions, namely excellent, and

Whereas,

Your pleasant personality, loyalty to brother members, and ability to help them thru their darkest troubles have earned our deepest gratitude. Therefore be it

Resolved,

That as long as you maintain your status as a newspaper pressman, Worcester Newspaper Pressmen's Union No. 29 are highly desirous that you remain a member of this local.

Unanimously adopted, Feb. 14, 1939.

John J. Bullman *Pres.*
Harry Pollard *Sec'y.*

Ted Shea, former Mechanical Superintendent of the Worcester (Mass.) Telegram-Gazette, *but who recently left that organization to become associated in an executive capacity with the Hearst production department in New York, was presented a testimonial by his friends and former associates in the* Telegram-Gazette *plant.*
An impromptu get-together was held in the Worcester Telegram-Gazette *pressroom on Saturday, March 25. Presentation was made by John J. Bullman, President of the Worcester Newspaper Pressman's Union No. 29.*

Arranging for the forthcoming Iowa Mechanical Conference

Left to right: Stereotype Superintendent Andrew Jose, Pressroom Superintendent Val L. Wells, and Composing Room Superintendent Harry T. Murphy, all of the Des Moines Register *and* Tribune. *Mr. Wells is chairman of the committee.*

Issues New Catalog

A feature of the new Hamilton newspaper composing room equipment catalog No. 21 is the accompanying bound set of dummies which contains illustrations of a number of newspaper tables for page makeup, news and ad machine dumps, tables for correcting, ad storage, material storage and other purposes. Tables are made up of standard units so newspaper composing room executives can design their own makeup tables and storage cabinets. Tables are shown in outline with separate illustrations of the units which may be fitted into them to meet individual requirements. Loose-leaf illustrations of the units for cutting and pasting up are available from the manufacturer.

Designs shown in the catalog are typical designs only. Innumerable variations are possible in sizes ranging from 4 to 12 ft. long.

Besides the items mentioned above, the catalog illustrates and describes waste metal trucks, makeup trucks, electric page-storage cabinet, magazine racks, benches, parts cabinets, type cases and cabinets and other items of composing room equipment. *P-Double-E File No. 1E.*

THE THIRD OF A SERIES OF ARTICLES PERTAINING TO THE DESIGN, CONSTRUCTION AND MAINTENANCE OF BUILDINGS FOR THE PRINTING INDUSTRY.

Planning the Printing Plant

By JAMES WILLIAM THOMAS*

NEXT in importance to finding the proper location for the newspaper pressroom, is the problem of arranging for its correlated mechanical departments, the composing room and the stereotype department. While the location of the pressroom is dependent on things outside the building as well as to its relation to departments within, it is imperative that the stereotype operation be directly related with the press and, in turn, the mat roller (if in the composing room) must be immediately related to the stereotype foundry, or rapid mat delivery means must be provided, and the composing machines with the news room. It would seem unnecessary to set forth facts which are so obvious, but they have been disregarded in so many plants where additional money has been spent for equipment, some of which might better have been applied to accomplish better planning.

While it is most advisable to have a close working distance between the circulation department and the mailing room, the editorial rooms with the composing room, the engraving room with the editorial room and the composing room, and the business offices with *all* departments, the one factor which makes planning a building for economical printing so difficult (while at the same time so intriguing) is the inflexibility of some of the equipment items and the rigidness of the relationship which must exist between the three major mechanical departments if speed and economy of operation are to be accomplished; the machines themselves, as well as the available mechanical methods for distributing products, almost absolutely dictate where certain pieces of equipment must be located. In the detailed planning of these mechanical areas the designer needs all the assistance he can get from the executives and the men who are responsible for the operation.

If the foundry is located on the pressroom level, one should consider the ventilation problem involved; with mechanical ventilation, the air should be introduced *into* the pressroom and exhausted *from* the stereotype room, preferably from directly over the pot.

If the foundry is on the floor above the press, the foundry and the composing room must be laid out in direct conformity to the plate drop, and these two departments should be considered with the news room and the engraving room as one operating unit.

The business office should present an orderly appearance to the public, and its three activities should function easily with the mechanical and editorial departments, and also directly with the counter. The news room must be tied in tightly with the composing room and the engraving room, but it also is a department which must be accessible to the public, and should be placed in a location easily reached from the main entrance. The business office and the editorial room should be well lighted, well ventilated, and somewhat generously planned; the work done in them requires concentration of thought, frequent conferences and many interruptions. Well arranged areas and a logical division of the various activities of these departments will lessen the tendency towards confusion, but it is wise, and comparatively inexpensive, to install sound absorbing materials on the ceilings and to select a proper floor covering; both of these details will do much towards making these two important office areas quiet, efficient, and business-like in appearance.

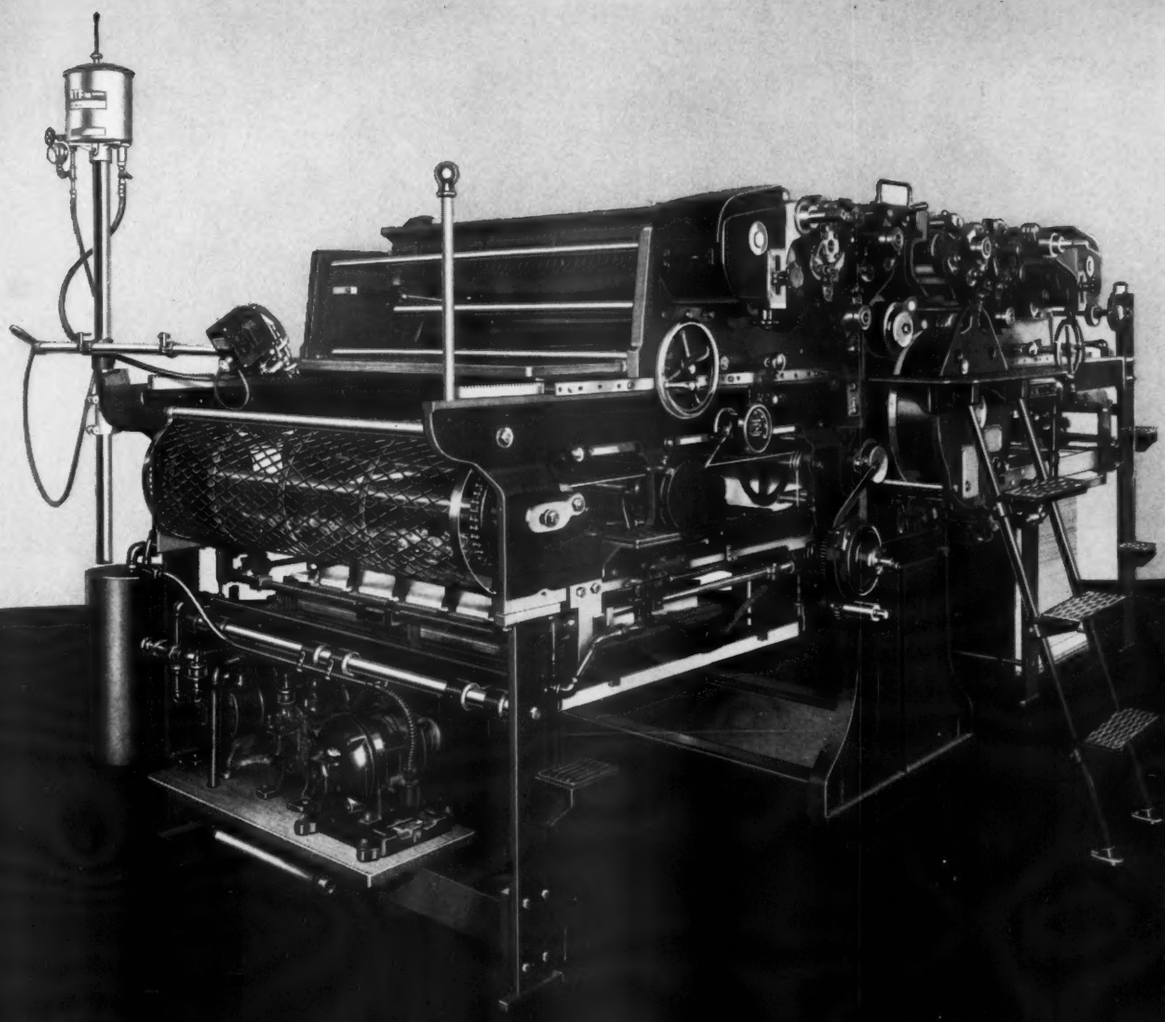
The designer of a printing plant, if he is well trained in the science of planning, realizes quickly that he has a unique "plan problem" to solve. He finds his major task is the creation of a manufacturing plant where an entirely new product is produced at certain predetermined intervals, where the processes leading up to the production of the finished product are expensive and where dead-lines are absolute. It is a manufacturing plant in which almost everything that is made is destroyed shortly after its creation; it is a plant which makes, in one department only, a marketable product; and that the making of this product requires the services of people who do diversified jobs: some purely mental and imaginative, some performing their work on machines of the utmost delicacy, while others operate ponderous machinery of almost uncanny speed and precision. All of which resolves itself into an intricate list of room requirements calling for areas that are big in size, rigid as to their inflexibility, patently dependent on each other and on well-planned minor areas carefully related to the larger areas, all involving high operating costs and speed of operation which makes poor planning for any of the activities definitely penalize the entire operation.

If the larger elements of the plan have been properly arranged for, one should have little difficulty in finding suitable locations for the accessories which accompany them. These secondary elements, such as rooms for the electrical control, transformers, building and plant mechanical equipment, conference rooms, toilets and locker rooms, etc., can, if well placed, contribute much to the success of the plant; but in placing them the planner should not forget that their location should also be influenced by their relation to an economical lay-out of electrical and other utility lines as there is big money involved. He should strive in every way possible to make those mechanical features of the building—those which are not used directly in the printing and distribution—as nearly foolproof and as simple as possible. Experience indicates that mechanical supervision is most alert in keeping equipment used for production purposes in A-1 condition but is somewhat lax in an appreciation of the fact that building equipment is also entitled to careful servicing.

Local building conditions should influence the selection of the type of construction best adaptable to a particular plant, but it goes without saying that a building used by a printing plant should be of fireproof construction. Buildings for small plants may justify the use of one of the several quasi-fireproof types of construction now available, but to build cheaply for an industry using the heavy and expensive machinery that is required in printing plants would seem to be poor judgment and false economy.

(*To be Continued*)

*Architect and Printing Engineer, Cleveland, Ohio.



ntage

heet n h elle dist

ssion ke-ready p

Co ell

ORK East

YBO N D

TH- NE,

Cottrell

LAY

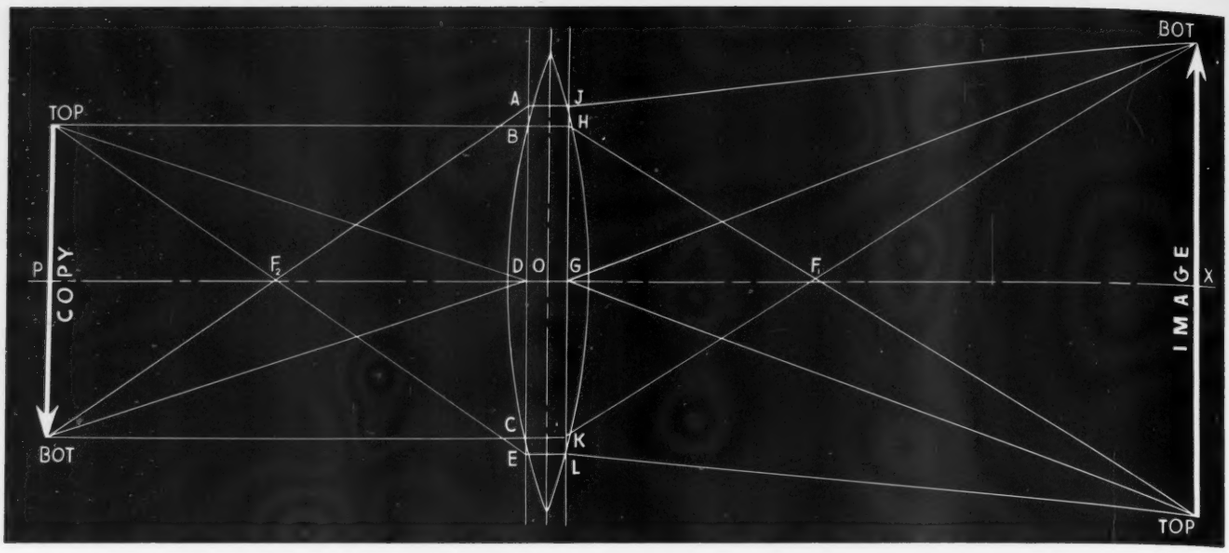


Fig. 28.—Depicts inversion and reversal of image through a single lens. A similar result is obtained from the compound lens used in process work.

What Is It?—X

In which the author discusses refraction and image inversion and reversal taking place in the camera —Terminology for uninitiated

By ADAM HENRI REISER

Part I—The Camera Image

IN THE last article of this series we depicted different types of camera backs, developed line work and halftone differences, figuratively, mentioned something about screens, screen angles, photographic materials and then concluded with a promise to go into the image inversion and reversal that takes place in the camera.

A cartoon in a recent issue of one of the camera magazines depicts a woman under a photographer's hood at the camera back while the photographer poses a baby, holding it upside down by one of its legs. The caption under the picture reads, "How does that look, Mrs. Buttinsky?" What a forceful illustration of the little known and little understood act of inversion of the image in the camera!

The action has been touched upon lightly in Article VIII with the mention of light ray refraction. Refraction, the bending or deviation of light rays, takes place whenever light passes from one transparent medium into another. Thus we find, referring to Fig. 28, rays which leave point *TOP* of the subject and strike the lens in three different places, *B*, *D*, and *E*, change direction both upon entering the lens and upon leaving, finally showing up as point *TOP'* on the ground glass. Rays which leave the point *BOT* of the subject may strike the lens at *A*, *D*, and *C*. These, too, change direction and end up at point *BOT'* on the ground glass. There we have the image inversion. That which represents the top of the copy is now at the bottom on the ground glass. A similar action affects rays reflected from other points on the copy except, of course, those which fail to enter the lens, or, the ray which travels the path of the principal axis. It, therefore, follows that points *LT* and *RT* (left and right of the copy), see Fig. 29, change places when rays which start from those sources pass through the lens and strike the ground glass. Thus the reversal action takes place, reversal in the sense that the material now reads from right to left besides being upside down. Another form of reversal also takes place, but more of that later.

TERMINOLOGY

Definite terms are applied to certain of the lines and points shown in Figure 28. Before we leave the diagram let's just review a few of the important ones.

Optical Center is the term applied to the center of the lens through which passing rays will suffer no change of direction. Point *O* is such a point in the diagram.

Principal Axis is the line passing through the centers of curvature of the faces of the lenses used in the lens assembly. The line *POX* is the principal axis.

Secondary Axis is the term applied to any other straight line which passes through the optical center. The line running from *TOP* of the subject to *TOP'* of the image is such a line.

Principal Focus is that point on the principal axis where lines meet which started our parallel to the principal axis but converge as they pass through the lens. The point *F1* is the principal focus in Fig. 28. It is sometimes also called a focal point.

Focal Length of a lens is the distance between the principal focus or focal point and the nodal point of the lens. There are two nodes in every lens, one of admittance and the other of emergence. There are also two focal lengths, a front focus and a back focus. The focal lengrh in our Fig. 28 is the distance from the nodal point *G* to the focal point *F1*. A simple manner of determining the focal length of a lens is that of getting an image on the ground glass the same size as the copy. Measure the distance between the copy and the image. Divide this by four and the quotient will be the focal length of the lens.

Nodal Points are determined by the type of lens. They need not necessarily be inside the lens but may be in front of the lens, behind it, or near the diaphragm, depending upon the lens assembly. Points *D* and *G* are the nodal points in our sketch. The lines *ADE* and *JGL* are the nodal planes.

While many of these terms may never be heard in the reproduction studio of the lithographic shop, a bowing acquaintance with them is advantageous.

(*Continued on Page 56*)

Here... *There...*

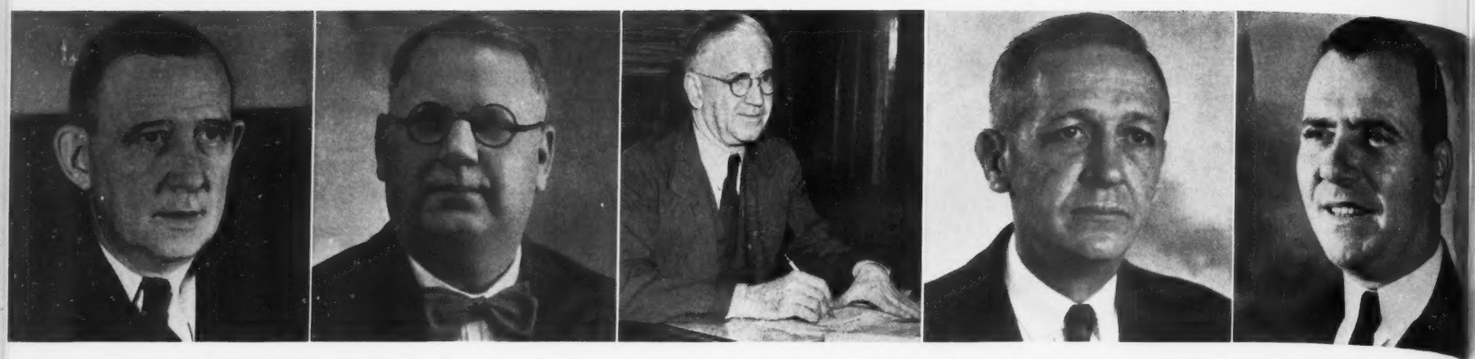
Soon it will be everywhere!

Production of ATF's newest press is progressing to the point where we will soon start shipping to your local ATF Branch for demonstration and display. Watch for an early announcement!

American Type Founders

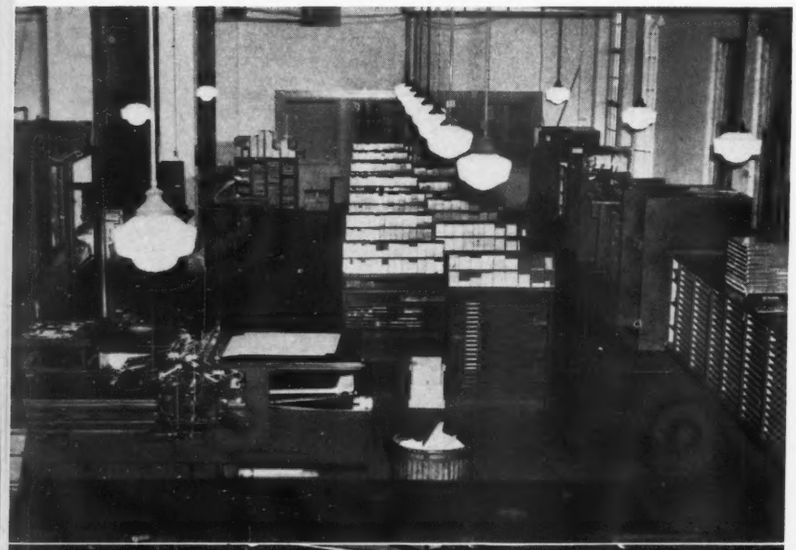
200 Elmora Ave., Elizabeth, N. J. • *Branches in Principal Cities*

Wait for the press the pressmen OKayed!



Mechanical Executive Personnel of New Orleans Times-Picayune *and New Orleans* States *Now Administer Production in New Building*

S. F. Elrod, Stereotype Superintendent; Charles J. Conrad, Engraving Superintendent; Claude L. Baker, Composing Room Superintendent; George Downes, Chief Composing Room Machinist; and Peter Prassinos, Pressroom Superintendent.



Annex

(*Continued from Page 20*)

modern powdering boxes with screen wire openings on top, all new marble-top tables for drying and touching-up zinc plates. The stripping room has all new troughs, new and up-to-date lighting, new Chemco full-length stripping table, and negative drying oven.

"The plate printing department is entirely enclosed and equipment consists of printing frame, Rolup section, and developing troughs for both enamel prints and ink prints. The new McBeth printing light will print the plate through a window. The switch for the printing light being on the inside, saves printing operator from leaving the printing room only after prints are completed and ready for etching.

"The *Times-Picayune* and New Orleans *States* employ 26 engravers and apprentices operating a night and day force. Two operators are used on strip-film camera for speed, as we have a vast amount of news cuts, promotion work, ad work, and color plates. We have had marked success with color, having a skilled color man, and an assistant, using benday process which is found most satisfactory and economical."

Composing Room

Composing Room Superintendent Claude Baker supervises production in the composing room from which forms are completed for both the seven-day morning *Times-Picayune* and six-day evening *States*. Composing room floor area has been increased from 6000 to 8200 sq. ft. of floor space. Its area spreads from the original building into the new annex as well as now occupying floor space formerly used by the proof room. In the composing room are operated 28 Intertype and Linotype

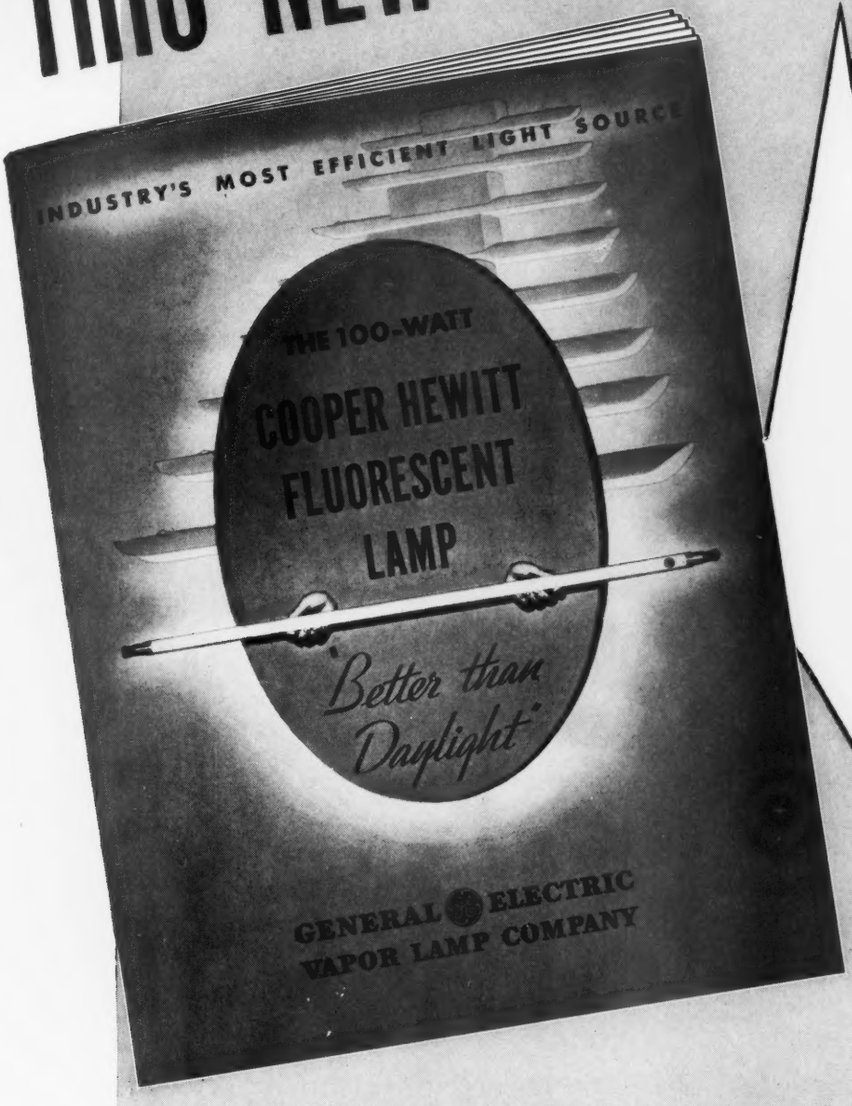
Upper picture: View in hand section of ad alley, New Orleans Times-Picayune *and* States. *Each pair of ad alley cabinets accommodates two compositors—one each on opposite sides of the cabinet. At left is Stahl Form File. In foreground is Vandercook page proof press. Saws arranged along the wall are enclosed by metal cabinets.*

Center picture: View of Downes proofreaders' table which accommodates head proofreader and seven readers.

Lower picture: Section of ad alley with some of the Intertypes and Linotypes. In center is magazine rack containing 12 display magazines for the Linotype opposite. At right of magazine cabinet or rack is a Rouse Bandsaw.

THIS NEW BOOK

gives the story of industry's newest and most efficient light source



HIGH LIGHT OUTPUT
HIGH EFFICIENCY
LONG LIFE
COOL BLUE WHITE LIGHT
ELECTRICAL CHARACTERISTICS
RECTIFIED AC ARC CIRCUIT
LOW INSTALLATION COST
NO DARK SHADOWS
NO EYE FATIGUE
DUST TIGHT
SPECIFICATIONS
FOOT CANDLE TABLE

Higher, more productive illumination levels at less cost. Elimination of annoying shadows, glare and eye-fatigue. These are some of the many advantages of this new blue-white industrial light source. » » » Write for a copy of this book. It's freely offered.

GENERAL ELECTRIC VAPOR LAMP COMPANY

981 F

GENERAL ELECTRIC VAPOR LAMP COMPANY, 899 ADAMS STREET, HOBOKEN, NEW JERSEY

line-casting machines, a Ludlow, two Monotype strip-casting machines and a Monotype Giant caster.

Among the new machines installed recently are two new headletter line-composing machines and a 72-channel display machine with 12 magazines, five new composing room saws, a lathe and numerous cabinets, racks and stands for material and similar equipment.

In addition to cabinets purchased, three special stands were designed by Chief Machinist George Downes. These provide for 36 makeup trucks. Material may be dumped at the center or at any point along a rack. Inclined panels carry the dead metal to two hopper receptacles beneath.

New equipment also includes two hydraulic form files where pages may be stored until they are to be broken up or perhaps revised for further use.

The line-casting machines are operated at 7½ lines per minute. A short news story may be handled in four minutes. During a recent afternoon and night, states Superintendent Baker, (period from 4:30 p.m. to 12:30 a.m.) 125 pages were made up completely with an average time of 3½ min. to the page.

As will be seen by examining the composing room floor plan layout, the proofreaders have been furnished a separate room in which to do their work. The room is set off outside one corner of the composing room proper. It is glass enclosed and sound-proofed. A special twin-belt conveyor designed by Chief Machinist George Downes, conveys copy and proofs to and from the composing room. The sending and receiving end in the composing room diagram is indicated at C-11. In the proof room the sending and receiving station is indicated at P-2.

The conveyor belts are fabric and are approximately 3 in. wide. Two belts run together in the same direction and the copy and proofs are carried between. The belts are driven by individual electric motors. The proofs and copy to be sent from one destination to the other are simply laid on one of the moving belts at a point near the terminal and before the belts are directed so as to join together and in unison. When copy and proof have reached delivery point, both drop off into the receiving station.

At P-1 is indicated the proof-reading table. This was described some time ago in *Printing* EQUIPMENT *Engineer*. This table accommodates position for head proofreader and seven readers.

The composing machines receive maintenance care according to a carefully worked out schedule whereby each machine receives attention automatically at specific intervals. The machines in this plant are carefully groomed so the operators may obtain maximum production without embarrassing breakdowns at critical moments.

STEREOTYPE DEPARTMENT

By moving the engraving department to another location in the new annex, Stereotype Superintendent S. F. Elrod was enabled to expand the floor area from 2400 sq. ft. to 4800 sq. ft. By studying the floor plan layout of the Stereotype Department, it will be seen that the plate-making equipment pieces have been grouped about the arbitrarily-fixed plate elevator (S-9) on which stereotype plates are delivered to the press-room below. Plate work, it will be seen, while traveling in semi-circular direction, travels the minimum distance from receipt of the forms from the composing room at S-1 matrix rollers until the finished plates are placed in the elevator (S-9) for delivery to the pressroom.

Note the vacuum curved plate casting box for comic plates at S-12. The nickel-plating department for color and magazine plates is located at S-17.

The department has a capacity for handling 50 newspaper pages per hour and on a recent Saturday afternoon and night 750 plates were made. The department uses approximately 5000 dry mats each month.

The stereotyping department will have two of each machine so that one will be available in reserve in the event the other breaks down.

An example of the speed with which the stereotypers work is furnished by returns on a recent prizefight. Twelve minutes after the receipt of the 15th round by wire, the "story" was set, the page "made up", the cast made and the press was running with the paper.

The time for making a starting plate has been reduced to just six minutes in an emergency.

Twenty-four men are employed in the stereotyping department. With the two newspapers publishing a total of 12 editions daily these are kept busy most of the working day.

Pants Putter-Onner For Arthritic People

ALMOST without exception, printing plant mechanical executives do have brain-children. These may take the form of something of a mechanical or production-help nature, then again the "child" may be something to assist a person who isn't exactly in a position to help himself at all times. Mostly, many inventions are not passed around so that everybody can have the benefit of their utility. This didn't happen in the case of a device accredited to Auburn Taylor, Mechanical Superintendent of the Charleston (West Va.) *Gazette*. It seems that during February several hundred newspapers carried an illustration with story about Mr. Taylor's Pants Putter-Onner which was created especially for Father-in-Law Uncle Bill Dryer (92) who is unable to stoop readily because of arthritis. To eliminate any bending, the user merely presses a button to raise the platform waist-high. Then the trousers are slipped over two pedals and chains are hooked to the belt loops; user drops the platform, steps onto the pedals, presses a button—and the pants are on. A device for putting on socks also is built in. It is somewhat like a long stick with a shoe horn arrangement—is said to work perfectly.

View of Auburn Taylor's Pants Putter-Onner for fat, feeble, tired or arthritic men.

Intertype Matrix Faces

Intertype Corporation has added the 9 point size to Beton Medium with Bold as shown here. Other new two-letter faces are Gothic No. 34 with Gothic No. 35 and Gothic No. 16 with Cheltonian Bold.

THIS paragraph set in 9 point Intertype Beton Medium **with Bold** 12345

6 PT. GOTHIC NO. 34 WITH GOTHIC NO. 35
6 PT. GOTHIC NO. 34 WITH GOTHIC NO. 35

THIS paragraph is set in 6 Point Gothic No. 16 duplexed with Cheltonian Bold 23

FLUORESCENT LAMP APPLICATION

New fluorescent lamps, which are said to be two or three times more efficient than the old lighting equipment, have been installed in the Chicago *Tribune* proofroom. The inside of the proof desks (top partitions) have been painted a flat green which is easier on proofreaders' eyes than the former varnished surface.

Underwriting your risk!

LLOYD'S was formed in London to insure against ship losses. ***Ideal Rollers are built to insure you against loss of printing quality.***

The cost of Ideal Rollers is less than 1% of the risk involved in producing a printing order—yet their use insures smooth-running production and uniformly high-grade results.

These fine rollers have been improved constantly to meet all your demands for trouble-free rollers.

Wise printers buy ***Ideal*** Rollers with the confidence that they are the best obtainable and that their cost is a thrifty investment in job appearance and customer satisfaction. Let us prove the sincerity of these claims.

IDEAL ROLLER & MANUFACTURING CO.

CHICAGO, ILLINOIS *Branches in the principal cities* LONG ISLAND CITY, N. Y.

Baffle Mouthpiece

On Intertype crucible and how it functions to compress and expel greater part of air from mold at time of casting a slug explained

By ENGINEERING DEPARTMENT*

IN THIS article, the discussion is placed chiefly upon the Intertype baffle mouthpiece which has been incorporated in the design of the metal pot crucible. In any description dealing with technical developments, it should be apparent that many basic and related factors must be omitted from the discussion in order to cover fully the essential features of the new development. No attempt has been made to present a description of parts previously developed and applied. It is understood, however, that correct adjustment of these related parts is essential to the operation

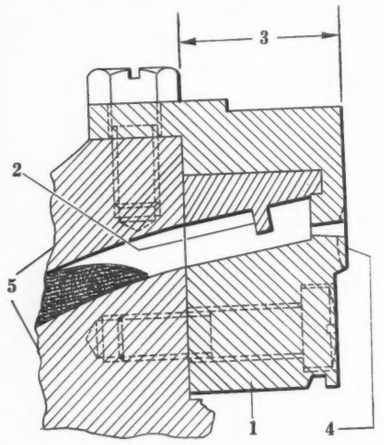


Fig. 1.—Cross-section diagram of Intertype metal pot crucible baffle mouthpiece in which metal pot and related parts are shown tilted back in normal position. Mouthpiece 1 *has been redesigned as shown and is fastened to the crucible* 5 *by screws. Depth of mouthpiece is indicated at* 3. *Increased amount of steel, it is said, is one of chief reasons for uniform temperature under variable casting conditions. The baffle itself* 2 *is inserted in recess formed back of mouthpiece* 1. *Vents* 4 *have been redesigned to facilitate air displacement when cast occurs.*

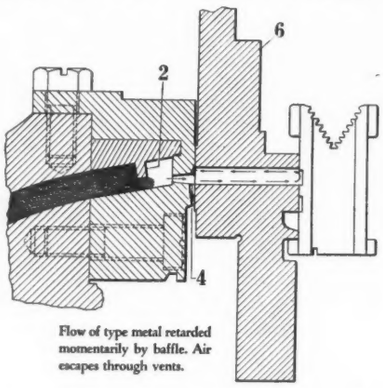
of the new devices. The metal pot thermostat, pot pump plunger and spring, the mold, pot lever spring, adjustment of the lockup, maintenance of the line-composing machine metal, and other factors concerned with the complete process of slug-casting must be adjusted properly and must be maintained in good condition for the functions they are designed to fulfill.

Baffle Mouthpiece Described

The basic construction of the baffle mouthpiece is illustrated in Fig. 1, in which the metal pot and related parts are shown tilted back in normal position. The baffle 2 is inserted in a recess formed at the back of the mouthpiece *1*. A baffle, in mechanical terms, is a plate or a formed object placed in a channel to control the flow of the liquid passing through the channel. In the Intertype crucible, the baffle extends partly into the metal channel and creates an opening of precise size for the passage of the type metal. This factor results in a controlled flow of type metal as to amount and as to condition and purity. In addition to the baffle, it should be noted that the size of the body of the mouthpiece itself has been increased, as shown at 3. The increased amount of steel in the mouthpiece is one of the chief reasons for its uniform temperature under variable casting conditions. The vents *4* in the face of the mouthpiece have been redesigned to facilitate the displacement of air as the cast takes place. The baffle mouthpiece is fastened to the crucible *5* with screws instead of the tapered gib formerly used, making it easier to remove the mouthpiece and to adjust it sidewise with respect to the mold. The holes in the mouthpiece, through which the fastening screws pass, are enlarged for this purpose.

Slug Solidity

The solidity of slugs is dependent chiefly upon the efficiency with which air is displaced from the crucible and the mold when the cast takes place. The greater the efficiency of air displacement, the more solid and close-grained will be the slugs. In Fig. 2, the mold has locked against the matrix line and the mouthpiece has locked against the back of the mold. The pot pump lever has descended, forcing the molten type metal upward through the crucible throat against the baffle. As the type metal is driven upward, of course, the air which was formerly in the crucible throat is forced ahead through the mouthpiece jets or holes into the mold *6*. The projecting baffle 2 momentarily retards the flow of type metal so that the air under pressure in the mold will have more time to escape through the vents *4*. The displacement of the air is indicated by the arrows.



Fog. 2—Locked-up relationship of mold 6 *against matrix line with pot crucible mouthpiece in casting position against the mold. In descending, pot pump lever forces molten metal through crucible throat against baffle* 2. *Air in crucible throat is forced ahead through mouthpiece jets into mold* 6. *Baffle* 2 *momentarily retards metal flow so that air under pressure in mold will have more time to escape through vents* 4. *Air displacement indicated by arrows in mold* 6.

As the molten type metal is forced ahead of the baffle, as shown in Fig. 3, some of the air remaining in the mouthpiece is pocketed in the second chamber of the mouthpiece, further reducing the air pressure built up in the mold and confining the pocketed air where it cannot enter the metal stream. The metal continues forward through the jets *7* in the mouthpiece and flows into the mold. It should be borne in mind that the type metal is flowing under pressure of the pot pump plunger during its movements up to the baffle, into the second chamber of the mouthpiece and finally into the mold. The filling of the mold is illustrated in Fig. 4.

How the Baffle Functions

As a consequence of the displacement of air from the crucible and the mold, the baffle mouthpiece has minimized air holes or bubbles directly under the type characters on the slug. The baffle, as previously indicated, retards the flow of type metal momentarily, providing the split second necessary for the greater part of the compressed air to be driven out of the mold. This action is shown in Fig. 2. As the molten type metal passes through the mouthpiece jets into the mold, it is driven straight across the mold body into the matrix character recesses, as shown in Fig. 3. The metal is then deflected toward the back of the mold and gradually fills the mold opening as additional metal is delivered through the mouthpiece jets. Any air remaining in the mold is forced down toward the body and the base of the slug away from the area in front of the matrix characters.

Adjusting Jet-Mold Relationship

It should be noted that the height of the mouthpiece jets with respect to the mold body

(*Continued on Page* 52)

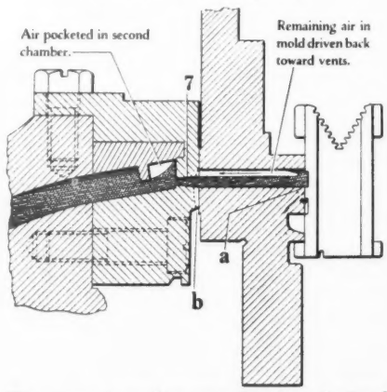


Fig. 3.—As molten metal is forced ahead of the baffle (2, *Fig.* 2) *some of the air remaining in mouthpiece is pocketed in second chamber of mouthpiece, reducing air pressure built up in the mold and confining the pocketed air where it cannot enter the molten metal stream. Metal continues forward through jets* 7 *of mouthpiece into mold.*

*Intertype Corporation, Brooklyn, New York.

CONTROL
Huber alone, among ink manufacturers, controls every step in the manufacture of its inks, including the production of its own grit-free carbon black.
From this rigid control comes the uniformity of performance which has made Huber inks outstandingly successful in news, comic, and gravure printing.
NEWS·COMIC·GRAVURE
J. M. HUBER, Inc.
NEW YORK, CHICAGO, ST. LOUIS, BOSTON
HUBER INKS
HUBER PRODUCTS IN USE SINCE 1780

150 Attend P.N.P.A. Mechanical Conference

LIVELY discussions of problems arising from operation of newspaper mechanical departments and suggestions helpful in improving the quality of the finished product and in reducing time and effort, featured the 1939 Annual P. N. P. A. Mechanical Conference at the Penn-Harris Hotel, Harrisburg, Pa., Monday and Tuesday, April 3rd and 4th. Increased interest in photography and photo-engraving was shown and many practical suggestions to help improve the quality of the printed paper were given.

Howard J. Lamade, *Grit*, Williamsport, chairman of the P.N.P.A. Mechanical Committee, was assisted in presiding at the sessions by Don Miller, Allentown *Morning Call* and *Evening Chronicle*, photography and photo-engraving; Paul V. Driscoll, the Connellsville *Courier*, stereotyping; D. Philip Young, the York *Dispatch*, composing room; and Karl A. Hoffman, Shenandoah *Evening Herald*, pressroom.

Approximately 150 newspaper men and representatives of equipment and suppliers' firms attended the two-day conference.

One of the highlights of the conference was the frank discussion of the topic, "If I Were a Pressman," by Col. J. H. Zerbey, jr., Publisher, Pottsville *Republican*, in answer to a talk, "If I Were a Publisher," by S. D. Evans, Mechanical Superintendent, Lebanon *News-Times*. Practical advice that a pressman or a publisher could use in everyday relationships that would bring about a better understanding of each other's problems was given by the speakers.

Hy Schwartz, The Kalart Company, traced the development of photographic illumination through the use of flash powder to the present day synchronized photo-flash equipment.

"There is perhaps no branch of the mechanical end of a newspaper which has received more widespread attention in the past few years that the engraving department," said E. T. Sullebarger, E. T. Sullebarger Co. "It seems like yesterday when the engraving department was a step-child shoved off in the corner which could not be used for anything else. Just enough equipment, frequently antiquated, was furnished to do the job and it was expected to do the work forever. In the past years, however, the success of graphic magazines, picture newspapers and the development of the wire photo have entirely changed this picture."

Mr. Sullebarger stated that the publisher considering the installation of an engraving plant should not be penny wise and pound foolish—he should take advantage of the experience of contemporaries; call into consultation someone whose experience and training will help solve his problems as to layout, equipment and needs; have sufficient foresight to visualize not only his immediate need, but that of years to come; keep away from gadgets; obtain the services of a competent operator and last, buy a full size standard equipment which will operate more economically over a long term of years.

Preparation of photographic copy for the engraving department was discussed by Lamount Hartman, Art Editor, Allentown *Morning Call* and *Evening Chronicle*. Walter A. Metz, engraver, Harrisburg *Patriot* and *Evening News*, gave helps on engraving plant operation. Ed Sachs, photographer, Lancaster *New Era*, talked on photographer's problems.

Millard L. Friday, E. W. Blatchford Company, discussed "Simplifying Metal Problems" at the stereotyper's session, while the subject of "Dry Mats" was taken up by Charles A. Puget, Wood Flong Corporation.

"Practical Application of Recent Line Composing Machine Developments" by H. R. Freund, Chief Engineer, Intertype Corporation, was given at the composing room session. C. M. Snyder, advertising director, the Reading *Eagle*, described the *Eagle's* new plant.

Edward Gase, pressman, the *Valley Daily News*, Tarentum, told of his experiences with "Reclaimed Newsprint," manufactured from de-inked waste paper recently on an experimental basis, at the pressroom session.

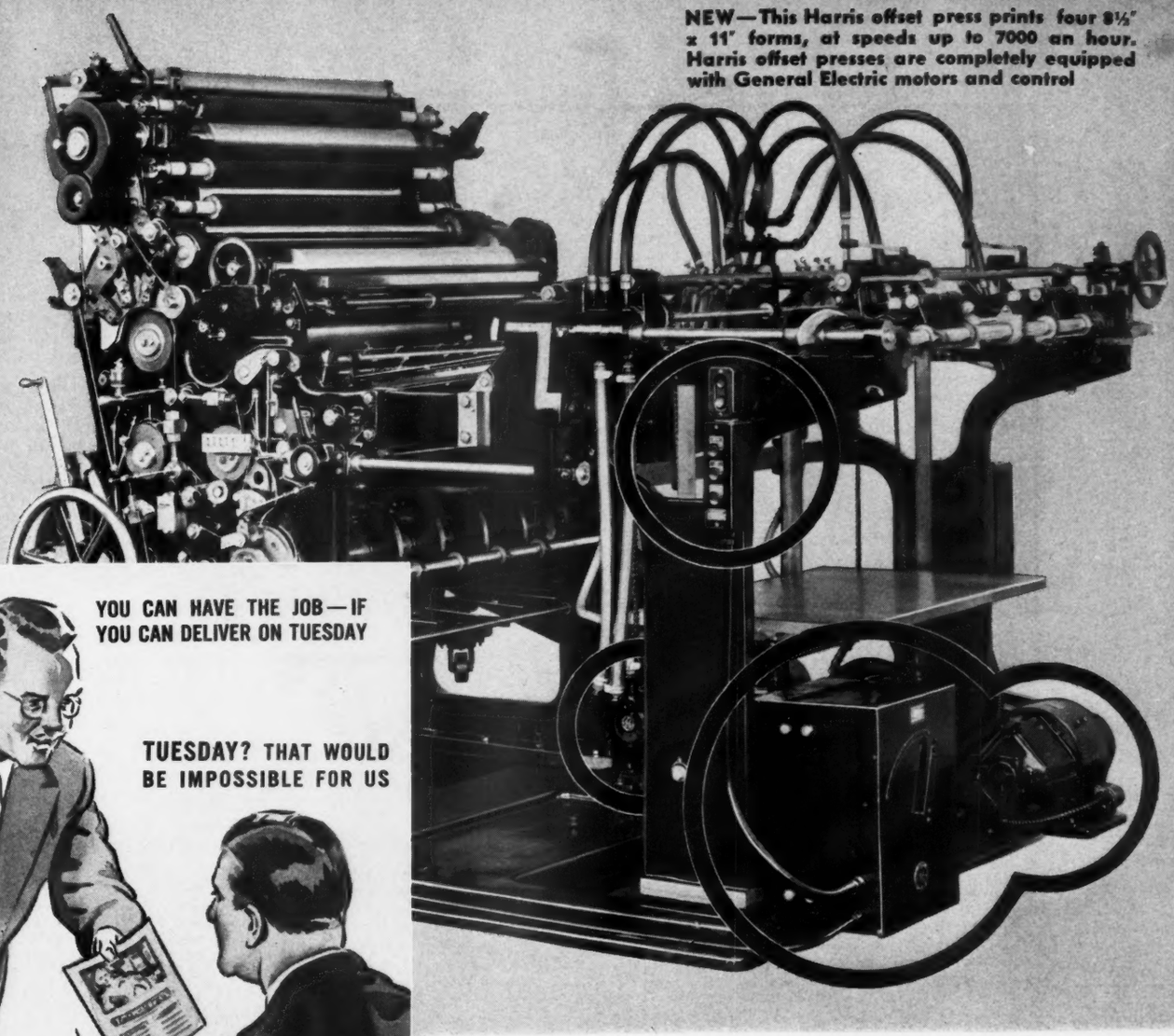
"Press Operating Problems" was the subject of an address by Earl P. Lacure, field expert, Duplex Printing Press Company.

Col. J. Hale Steinman, Lancaster Newspapers, Inc., president of Pennsylvania Newspaper Publishers' Association, brought words of welcome to the Conference.

Upper left—Howard J. Lamade, Business Manager, Williamsport (Pa.) Grit, is Chairman of the P. N. P. A. Mechanical Committee. Right: J. Hale Steineman, Lancaster Newspapers, Inc., is President of P. N. P. A. and extended welcome to the conference.

Lower left—Left to right: Paul V. Driscoll, Connellsville Courier; *S. D. Evans, Lebanon* Times; *E. A. Kaynen, Ambridge* Daily Citizen; *L. V. Mincemoyer, Williamsport* Grit.

Lower right—Left to right: Joseph B. Breslin, Bethlehem Globe-Times; *John Hoy, Shamokin* News-Dispatch; *Carl Heintze, Philadelphia* Legal-Intelligencer; *D. Phillip Young, York* Dispatch.



NEW—This Harris offset press prints four 8½" x 11" forms, at speeds up to 7000 an hour. Harris offset presses are completely equipped with General Electric motors and control

AN ORDER LOST BECAUSE OLD EQUIPMENT WASN'T FAST ENOUGH

YOU GET ALL THESE ADVANTAGES WHEN YOU SPECIFY G-E

1 A COMPLETE LINE OF ELECTRIC EQUIPMENT—equipment to meet every printing need.

2 A STAFF OF G-E PRINTING-EQUIPMENT SPECIALISTS—ready to help you plan your electrical installation.

3 TWENTY-FIVE G-E SERVICE SHOPS AND 28 G-E WAREHOUSES—conveniently located to give you prompt, expert service on ALL your electric equipment.

4 G-E UNDIVIDED RESPONSIBILITY—responsibility for the proper co-ordination and successful operation of the entire electrical installation.

HOW New Equipment Can Help You Get New Business

COMPETITION today demands printing equipment that can turn out work faster than ever before—work that is accurately and cleanly done. It demands flexibility, too—flexibility that enables printers to handle onionskin or blotting, low speeds or high speeds, line cuts or halftones—all on the same press.

Yet many printers continue to use presses and equipment that can't meet these present-day requirements. Such equipment is out-of-date—not because of its age, but because of its outmoded design. It can't print with the speed, accuracy, and flexibility of modern units. It makes profitable competition against new, improved equipment difficult.

Replace Profit-cutting Equipment

With new equipment—such as, for example, the Harris offset press illustrated above—you can meet today's competition at a profit.

Investigate today the greater speed, accuracy, and flexibility of modern pressroom equipment. Consider, too, the many advantages you get when you specify General Electric motors and control. General Electric, Schenectady, N. Y.

GENERAL ELECTRIC

011-452

High Cost of Obsolescence

"Printers and publishers the country over are eager to modernize their plant equipment," states J. T. Mackey, Mergenthaler president, in *The Linotype News*. "Too many machines have been carried along and operated far beyond their normal useful life. Resulting inefficiency is recognized as a serious hindrance in meeting competition and in the effort to keep costs within income.

"Authorities have stated that fully eighty per cent of the equipment of all industry in America today is obsolete. It is almost trite to state again that the resulting stagnation of capital-goods industries is the biggest single factor that retards business recovery.

"So it seems significant to me that more attention is being given to the possibility for a revised basis of taxation which would reward the plant owner who modernizes his equipment.

"Economists and business leaders, regardless of partisan leanings, are advancing the belief that a recognition of depreciation and obsolescence in tax formulas would stimulate modernization. They feel that government consideration of these factors would encourage spending and stimulate financial support for replacement and modernization programs."

Elected Executive Vice-President

It has been announced by the Board of Directors of Lanston Monotype Machine Company, that T. Frank Morgan has been elected Executive Vice President of the company. The action in creating this position by the board was taken in recognition of long years of service as Assistant to the President, Second Vice President and First Vice President.

Anniversary Edition

The personnel of the Ambridge-Aliquippa (Pa.) *Daily Citizen* celebrated the thirty-fifth anniversary of that paper by publishing a special 40-page issue on Tuesday, March 21. E. A. Koynen is mechanical superintendent. The *Citizen* is printed on a Goss 36-page Straightline Press.

Books Received

Encyclopedia of Lithography

Production and mechanical executives frequently find it necessary to refer to some phase of one of the printing processes. This is true especially of letterpress executives who are not exactly familiar with the many new phases, details and operating technique in offset-lith printing. One of the difficulties of the plant executive is that he doesn't have technical information, especially about offset, at hand in convenient form with which to inform himself. The offset plant executive, too, whether he be platemaker or pressman is in need of a reference book which will define many things pertaining to his vocation.

In a 212 page book, Russell L. Miles has compiled under the title *The Encyclopedia of Lithography*, technical data on every phase of the process. The book has been prepared strictly in encyclopedia form (alphabetically) so that finding technical information about any subject is easy.

Some of the articles in the book bear prominent names. For instance, *Color* was written by I. H. Sayre; *Theory of Three-Color Reproduction* was prepared by Arthur C. Hardy and F. L. Wurzburg, Jr.; *Dot Etching* by J. S. Mertle; *Dufaycolor* by Dr. Thorne Baker; *Photo-Composing* by W. C. Heubner; *Reducing and Enlarging* by J. W. Henning; *Typography for Lithographers*, by Myron T. Monsen.

The different plate-making processes are described. These include albumin, hand transferring, deep etch, collotype, etc. An editorial compendium includes suggested relief for scumming and other plate troubles and a comparison of deep-etch using positive or negative.

Encyclopedia of Lithography, by Russell L. Miles. Size 6 in. by 9¼ in. Bound in blue cloth, gold stamping. Illustrated. May be ordered through *Printing* Equipment *Engineer*. Price, $4.50 per copy, cash with order.

Intertype Financial Statement

Intertype Corporation recently issued a financial statement in which it is shown that after setting a reserve for taxes and depreciation the net profit was $164,178.79. This condition, according to Neal Dow Becker, president of the corporation, was due chiefly to the ever-growing satisfaction of buyers. He said further that production costs are minimized to a considerable extent by the excellent morale and infectious enthusiasm of the employees.

Number of Exhibitors at A. N. P. A. Mechanical Conference Continues to Grow

As of April 1, 29 newspaper printing equipment manufacturers and suppliers had reserved one or more booths for the equipment and supplies exhibit which will be held in connection with the Thirteenth Mechanical Conference of the American Newspaper Publishers Association. The Conference will be held at Hotel Benjamin Franklin, Philadelphia, on Monday, Tuesday and Wednesday, June 5, 6 and 7. It is anticipated that the exhibitors at this year's conference will represent the major portion of the manufacturers and suppliers to the industry.

Information respecting display space may be obtained by writing R. V. Dickerman, Assistant Convention Manager, Hotel Benjamin Franklin, Philadelphia, Pa.

Reservations for Exhibits at A. N. P. A. Mechanical Conference—Philadelphia

The following firms have reserved space:

Booth, E. A., Rubber Company
Chemco Photoproducts Company
Cushman Electric Co.
Eastman Kodak Company
Hammond Machinery Builders
Imperial Type Metal Co.
Klean-O-Mat Corp.
Lake Erie Engineering Corp.
Linograph Company
Linotype Parts Co.
Ludlow Typograph Company
Master Etching Machine Co.
Matrix Contrast Corporation
Mergenthaler Linotype Co.
Milwaukee Saw Trimmer Co.
Morrill, Geo. H., Co.
New England Newspaper Supply Company
Pitman, H. M., Co.
Printing Equipment Engineer
Rapid Roller Company
Richards, J. A., Company
Rolled Metal Company
Rouse, H. B., Company
Sta-Hi Newspaper Supply Co.
Stereotype Machinery Company
Tingue, Brown & Company
United American Metals Corp.
Vandercook & Sons
Wallin Mfg. Company

Employment and Service

Employers, production and mechanical executives may insert notices in this department.

Items for this department may pertain to the following subjects: "Executive Wanted," "Association or Partnership Wanted," or "Position Wanted," readers referring to subjects of a personal nature such as obtaining information about addresses of executives, supplying copies of technical articles and magazines, patents for sale or requests for contacts for developing and/or financing of inventions.

Any reasonable request from an employer or mechanical executive for the printing of a notice upon a subject other than the ones listed above will be granted.

Notices may be printed under the following regulations: First insertion (maximum six lines) is free of charge. All subsequent insertions of the same item subject to a charge of 75c per line in advance.

Address all communications with box number to *Printing* Equipment *Engineer*, 1276 West Third St., Cleveland, O.

SITUATION WANTED—By reliable engraving apprentice with 1½ years experience; 21 years old; will go anywhere; best of references; employed at present; best of reasons for wanting change. Reply Box 72.

ST. LOUIS POST DISPATCH

has installed

FOUR
AUTOMATIC AUTOPLATES

with Vacuum Equipment, Autoshavers
and Tail Conveyors

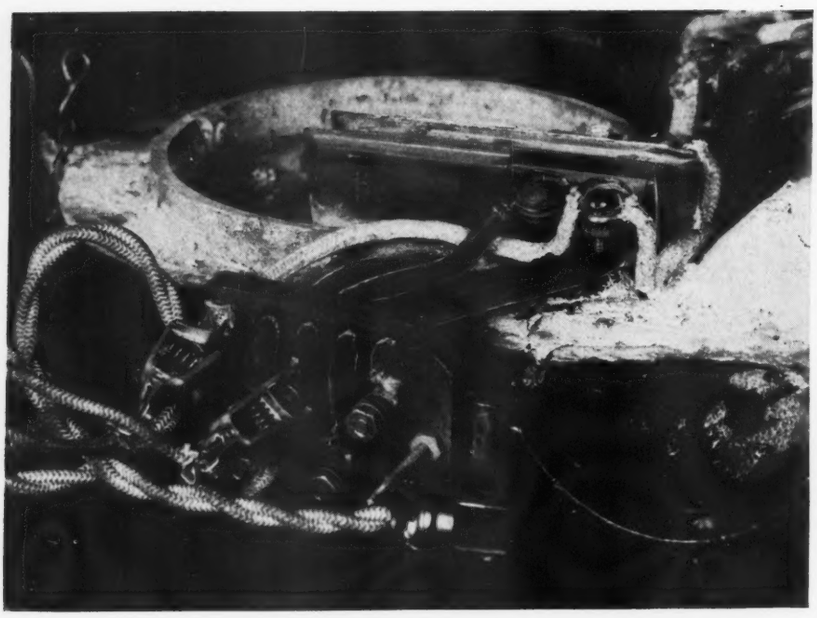
THE MINNEAPOLIS STAR

has installed

TWO
AUTOMATIC AUTOPLATES

with Vacuum Equipment, Autoshavers
and Tail Conveyors

WOOD NEWSPAPER MACHINERY CORPORATION
PLAINFIELD, NEW JERSEY **NEW YORK OFFICE: 501 FIFTH AVENUE**



View of Linotype 220 v. metal pot wiring terminal block with extended jumper which is passed through an extra hole drilled in the terminal block. The jumper is in one piece to avoid complicated wiring. When one of the pot heaters gives out, it is a simple matter to determine the defective one and hook up the remaining heater by means of the battery clips to the wire which is plugged into a 110 v. lighting circuit to melt the metal in the pot, after which the defective heater may be removed and replaced with a new one.

Emergency Wire

On 220 v. Linotype metal pots melts metal when one heater gives out—Connected to good heater

By G. A. RIGHTER*

IN THE *Palladium-Item* composing room we use 220 v. metal pots on our Linotypes. Occasionally, and after long useage, a metal pot heating element will give out, or, as it is usually expressed, one of the two pot heating elements will "burn out." In this case the metal solidifies and must be melted before the pot lid can be removed and the defective heater replaced with a new one.

If the plunger and thermostat are frozen in the metal, as is usually the case when a heater fails, the pot lid cannot be removed nor can the terminals of the remaining good heater be reached in order to connect a 110 v. line.

We employ a simple means for melting the metal, with the pot lid on and the Plunger and thermostat in the pot, by plugging the remaining good element into a 110 v. lighting circuit. As will be seen in the illustration, we run an extra wire made from No. 12 asbestos covered wire to the end terminals on the heaters and pass its extended end through a hole drilled in the fibre terminal block at the side of the pot. The wire is bared at the outside end approximately ¼ in. from the end. All of our pots are fitted with this extra wire so that in case of heater trouble, we lose the minimum amount of down time for the machine.

When a heater gives out, we determine by test which one is good and simply connect the two battery clips, which are attached to a length of light cord, to the end of the wire leading to the good unit and the other clip to the extra wire. These wires are then plugged into a light circuit. As soon as the metal is melted, the pot lid can be taken off and the defective heater replaced.

On the one-piece units with three posts, the emergency wire is connected to the third post and brought out to the side of the pot in the same way.

*Mechanical Superintendent, Palladium Publishing Corporation, Richmond, Ind.

Color Specifier

Sigmund Ullman Company, Division of General Printing Ink Corporation, designed its Color Specifier so that the printer may have his imprint placed on the cover or flyleaf for distribution to his clientele. The inks selected for inclusion in the specifier are frequently used colors, practical in production and are printed on the grades of stock the printer is most likely to use.

Celebrates Twenty-fifth Year

This spring, in Chicago, The Chicago Printers' Machinery Works celebrates a quarter century of uninterrupted growth. The firm was established in 1914. The service it renders includes the sale and distribution of new and rebuilt printing machinery. A wide variety of nationally known lines of printing equipment is handled, including a complete line of modern type faces. Used equipment is purchased in various parts of the country and reconditioned in the company's machine shop on West Lake Street in Chicago.

When the business was started in 1914, an area of less than 2500 sq. ft. of floor space was occupied. This area has been expanded to 20,000 sq. ft. divided into a display floor, a machine shop and a storage room. About 35% of the floor area is devoted to the machine shop while the display room takes up 7000 sq. ft. of space.

In commenting upon the company's anniversary, President F. H. Melcher said: "Our business has grown steadily through good times and bad. We have twenty-five year customers who still come to us for their requirements. All of our used machines are rebuilt in our shop. Every part is carefully tested and expertly reassembled to insure good operating condition. Starting as a local concern, the company's activities have been increased to national scope."

Sanserif 52 with Italic

The Mergenthaler Linotype Company announces the cutting of a new type series—Sanserif 52 with Italic—in the 8, 10, 12 and 14 point sizes.

"This new series," says C. H. Griffith, Mergenthaler vice president in charge of typographic development, "provides a bolder and more compact texture for small display and body matter for national advertising and general commercial printing than Metro. This new face is being cut in three gradations of lighter weights, each with a companion italic."

HERE is a brief showing of the 12-point size of the new Linotype Sanserif 52 *with Italic. Modern man*

Winds Up Kelly Press School

American Type Founders has just concluded another Kelly School at its Cincinnati Branch. It was attended by one hundred and forty students representing over 70 plants in the vicinity. Eight of the students came 150 miles to be in the class.

The school was conducted for five weeks with Jack Walsh, instructor, using the No. 1 and No. 2 Kelly, ATF 17 x 22, and the B Kelly, the ATF Non-Offset Gun and a Rice Unit.

Horton W. Bransford, Manager of ATF's Cincinnati Branch, was principal speaker at the closing banquet held at Metropole Hotel. Jack Walsh acted as toastmaster.

Eastern Sales Office, 295 Lafayette St., New York City
Western Sales Office, 536 Sansome St., San Francisco

PRICES ARE DOWN!

Who gets the credit?

LINOGRAPH

accepts the orchids!

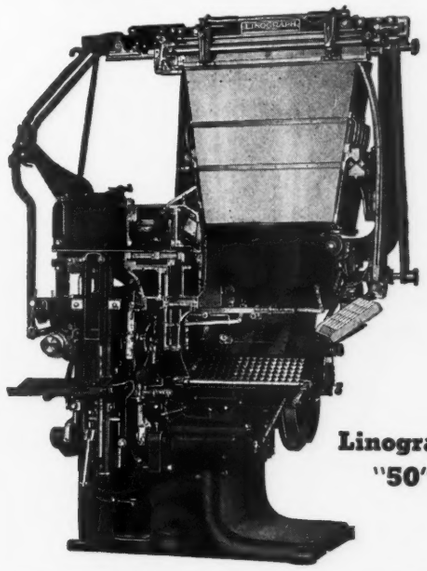
You buyers of typesetting machines should give serious consideration to equipment that has forced such reductions. It all means that

LINOGRAPH Must Have SOMETHING!
—which, indeed, it DOES!

That SOMETHING is a more simple and efficient machine—a 90-channel machine that does most of the work of 72-channel machines.

BEST OF ALL—the Model "50" Linograph still can save you

$1000.00 or MORE



Linograph "50"

**The Linograph "52" is exactly the same as the "50" except that it has cradle for only two magazines and at a still lower price.*

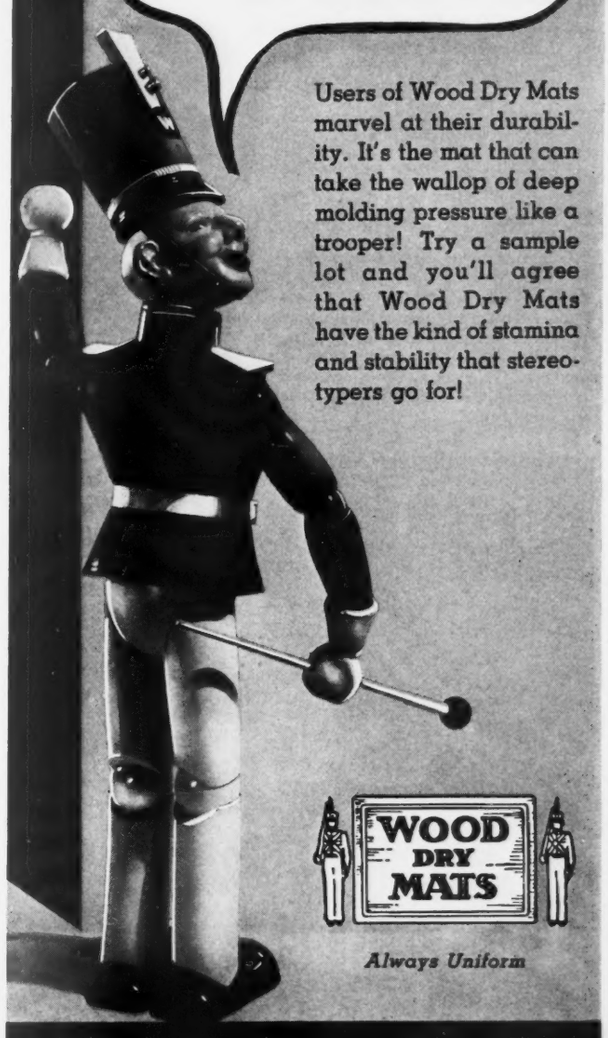
TEAR OUT AND MAIL THIS COUPON

LINOGRAPH CORPORATION
450 W. Front St., Davenport, Iowa

Gentlemen: Please send us your complete, illustrated Linograph "50" Catalog.

Name.....By.....
(Title)
City.....State.....

When You Want
MATS THAT CAN "TAKE IT!"
call
WOOD



Users of Wood Dry Mats marvel at their durability. It's the mat that can take the wallop of deep molding pressure like a trooper! Try a sample lot and you'll agree that Wood Dry Mats have the kind of stamina and stability that stereotypers go for!

WOOD DRY MATS

Always Uniform

WOOD FLONG CORPORATION

HOOSICK FALLS
NEW YORK

Waverly Galley Lockup on Monotype Caster

Equipment

(Continued from Page 24)

Waverly Galley Lockup

The Waverly Galley Lockup was developed by Waverly Press, Inc., in Baltimore. The device is claimed not only to lock type on the Monotype caster without damage to equipment but the locking is done before the type is removed from the casting machine. The Waverly Galley Lockup is intended for use on Monotype or other casting machines. Use of the device is advantageous in book composition where several proofs of a galley are taken and the type is held for some time before pages are made up.

The device consists of two side bars placed on opposite sides of the galley on the casting machine. The bars are held in place by the galley bar while type is assembled between them. An adjustable bolt and slug of the required width sets the proper measure to adjust the two bars until the galley of type has been cast and completed. A lockbar, notched at both ends is then placed at the open end and two tapered wedges are inserted into the slots of the lockbar and pressed finger-tight against the type. The galley can now be removed from the casting machine.

Claims made are as follows: (1) Practical measn of lockup directly from casting machine; (2) Eliminates dented and damaged galleys; (3) Pieing of type eliminated in handling; (4) Permits inverting galleys for inspection of feet of type and removal by brush of burrs or metal particles picked up in casting; (5) Type can be slid from galley to proof press bed, if press is of precision kind, bad type can be detected at once and the casting room notified; (6) Lockups take any length and width of type matter by using proper bolts and lockbars.

When knocked down, the lockup device can be stored in a space less than 1 in. square and the length of a galley.

Further information may be obtained from Blake & Tunis direct or in care of *Printing* EQUIPMENT *Engineer. P-Double-E File No. 1G9.*

Announces 9-Point Granjon

With the completion of the 9-point size of Linotype Granjon with Granjon Bold, that combination is now available in 6, 8, 9, 10, 11, 12 and 14 point.

"Of course the lighter members of this combination is an excellent book face," says C. H. Griffith, Mergenthaler vice-president in charge of typographic development, "and both weights are proving popular with textbook publishers and printers. Both weights, also, are being used for various forms of commercial printing, and among newspaper advertisers."

HERE is a brief showing of the new 9-point Granjon in combination with **Granjon Bold. How is one to assess and evaluate a type face in terms of its es-**

BETTER WORK *and* MORE OF IT!

"Meisel" Printing Press

The correct oil film to each individual bearing... *automatically*

No time out for oiling! Adds three weeks of productive running-time per year. Fewer shutdowns . . . less maintenance. Bijur automatic lubricating equipment increases machine life and efficiency; reduces operating cost. A "closed" system, with no drip or drainage, it prevents spoilage of work from oil contact, eliminates oil waste and decreases accident hazards. Specify your new machines BIJUR-EQUIPPED . . . insure quality plus quantity output—with lower production cost. Protect your investment.

BIJUR

AUTOMATICALLY *Correct* LUBRICATION

BIJUR LUBRICATING CORPORATION
LONG ISLAND CITY NEW YORK

1108

BURGESS CHROME MATS

Uniform Shrinkage of Burgess *Chrome* Mats is something you can definitely count on---every time

Use BURGESS *CHROME* MATS

Manufactured and Distributed by

Burgess Cellulose Co.

Freeport, Illinois

Pacific Coast Representative, RALPH LEBER, 426 Polson Bldg., Seattle, Washington

200

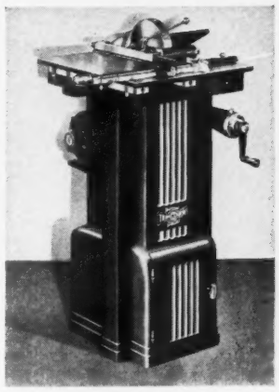
BURGESS CHROME MATS

BURGESS CHROME MATS

BURGESS CHROME MATS

BURGESS CHROME MATS

Increased Production . . . and Greater Accuracy with HAMMOND

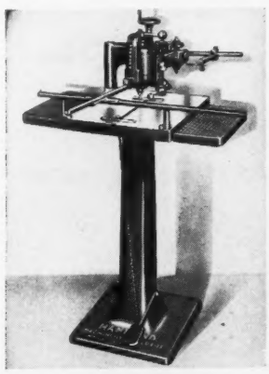


Glider TrimOsaws

MODEL G-22. Slug and Rule Model for the plant requiring more than one composing room saw.

MODEL G-2. Smaller All Purpose Model. Bench and floor types.

MODEL G-3. Larger All-Purpose Floor Model for the plant requiring maximum production.

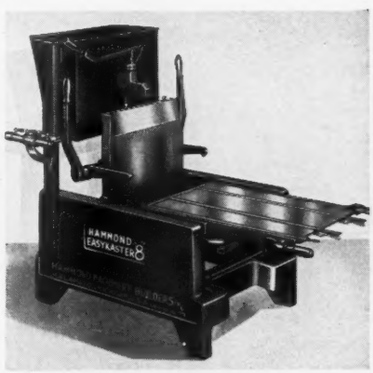


Routers

MODEL R-3. Combination radial router, straight-line router, beveler, and shell plate mortiser.

MODEL No. 11. Stationary head router-planer.

MODEL No. 7. Smaller stationary head router-planer.



Easy Kasters

MODEL EK8-P. Full page automatic locking flat caster with 800 lb. valve-controlled metal pot.

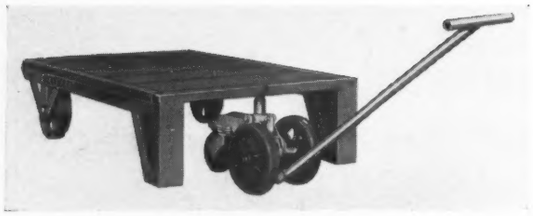
MODEL EK8. Full page automatic locking flat caster for the plant having large metal furnace.

3 Smaller Models with 300 lb. pot—5 Col. x 18", 5 Col. x 24", 6 Col. x 24".

Hammond Machinery Builders INCORPORATED

KALAMAZOO, MICHIGAN, U.S.A.

1604 DOUGLAS AVENUE



Service Caster & Truck Company's Skid-Jack combination for storing paper and other bundles.

Skid-Jack Combination

A semi-live skid wheeled at one end, legs at the other and a wheeled jack or lifting unit, combine to make a Skid-Jack, according to the Service Caster & Truck Company.

To lift, the jack is pushed forward until the lifting stud is directly under the attaching socket. As pressure is applied to the handle, the stud lifts upward, raising skid legs from the floor. When the handle reaches its lowest point, the union of jack and skid is automatically locked and the load is off the handle. Lowering of the load is accomplished with a foot pedal release.

Semi-live skids have heavy 10-gauge steel or all-steel bound hardwood decks in capacities ranging from 1200 to 5000 lbs. Choice of wheel sizes from 7 in. to 12 in. in diameter. Width is 13¼ in. and the length is 22 in. Two 10 in. wheels are standard, spaced 9 in. apart. Axle, with Hyatt bearings is 1 in. diam. Rear caster is 6 in. All wheels are Hyatt roller bearing equipped with high pressure lubrication fittings. Entire unit will stand alone. A spring handle hold-up keeps the handle erect when truck is idle. *P-Double-E File No. 1DD and 4D.*

Hunt Becomes Sales Manager

The Dayton Rubber Manufacturing Company announces the appointment of H. J. Hunt as Sales Manager for the Dayco Roller Division. Formerly, Mr. Hunt was connected for twelve years with one of the country's largest manufacturers of precision machinery. He served on that company's advisory board

H. J. Hunt, Dayco's New Sales Manager

handling development, manufacturing, educational and promotional programs. In 1927 he formed his own company to manufacture electrical appliances. Recently he disposed of other interests and joined the Dayton organization.

Change of Name

Modern Lithography will be the new name for *The Photo-Lithographer*, published monthly, effective with the May issue. Advertising and editorial offices are at 254 West 31st Street, New York, N. Y.

Van Note Promoted

R. S. Van Note has been appointed Assistant Manager of Sales of the C. M. Kemp Manufacturing Company, Baltimore, Md. Mr. Van Note previously served in the capacity of New England representative since 1929.

Announces Representatives

The C. M. Kemp Mfg. Co., Baltimore, announces the appointment of W. C. Green Co., Commercial Arts Bldg., Cincinnati, as representative in Columbus, Dayton, Cincinnati and adjacent territory; also the appointment of Beltaire & Drissen, 7328 Hamilton Ave., Detroit, Mich., as representatives for Michigan and adjacent Ohio.

Additional appointments announced by Kemp are The Abrahamson Company of Buffalo and Rochester as representatives in Western New York State and the appointment of H. G. Mouat, Martin Bldg., Birmingham, as representative in Alabama, Georgia and Tennessee.

Gets Gold Key

At the fifteenth annual convention of the Columbia Scholastic Press Association, held at Columbia University, March 9, 10 and 11, a gold key, the highest individual honor bestowed by the association, was presented to John E. Allen, editor of *The Linotype News*.

One hundred and eighty-two speakers in the newspaper and publishing fields addressed the nearly 2,600 delegates, from thirty-three states, at the three-day sessions. Mr. Allen spoke on "Modern Trends in Newspaper Makeup."

ESTABLISHED 1764

DAILY 1837

The Hartford Courant

BUSINESS DEPARTMENT

November 17, 1938

Cushman Electric Company,
Concord,
New Hampshire.

ATTENTION: Mr. A. L. Cushman

Gentlemen:

At the present time all of our linotype machines (21 of them) are operating with Cushman Offset Motors. Inquiry of the foreman of the Composing Room and the chief electrician informs us that your motors are giving highly satisfactory service. The fact that we have been using your motors for over ten years, testifies to our regard for them.

Very truly yours,

THE HARTFORD COURANT COMPANY

BY: John Swansky

Treasurer

JS:H

"Cushman Motors Give Highly Satisfactory Service"

—states the HARTFORD COURANT, of HARTFORD, CONN. "The fact that we have been using your motors for over ten years testifies to our regard for them."

Cushman offset motors will drive your line composing machines at their maximum capacities—with lower operating cost and greatly increased efficiency. Why not try these fine motors in your plant? Send today for a trial motor—or write for further information and literature.

CUSHMAN ELECTRIC CO.

69 South Main Street **Concord, N. H.**

Western Agents: Shaw Machine & Tool Co., 1151 Temple St., Los Angeles, Calif.

Keeping in Touch

WATCH FOR IT—The papers are full of Glamour Girls these days; perhaps they help to divert our minds from less pleasant news happenings. But now comes a magazine which presumably will devote 100 per cent of its space to Glamour, for that is the magazine's name, GLAMOUR. If you have seen the first issue (April), you know that it contains 186 beautifully printed pages, many of them in color. The Condé Nast Press did the printing; inks are IPI's. Look for GLAMOUR, but look out for glamour girls.

AUTHORITY—Now you can look us up in the encyclopedia! The Encyclopedia Britannica's "Book of the Year" covering 1938 makes mention of the development of Vaporin, the IPI instant-drying better printing process. It also refers to IPI's color research work with the recording spectrophotometer. But if you would like information on how IPI developments can help you improve your own printing, don't look in the encyclopedia. Just look in the phone book, and give us a call!

THEY SATISFY—The IPI Everyday inks for automatic presses have been advertised as "Guaranteed." This is unusual in itself, but more unusual is this fact, vouched for by our Everyday Ink Division. In the two years this line has been sold, there hasn't been a single complaint! No wonder we can guarantee Everyday!

AGAIN—For the seventeenth time, the Art Directors Club has issued the "Annual of Advertising Art." It contains samples of the most effective advertising art of 1938. As usual, the printing (by Beck Engraving Company, Philadelphia) is swell. And, as usual, the inks used were IPI 100 per cent—both black and white and color. Enthusiastic users will not be surprised to learn that the black was Holdfast.

FREE TO YOU—Do you like "Keeping in Touch"? We have had requests for reprints of these columns, so we are making up a little booklet containing most of the items which have appeared here, plus some NEW material. If you would like a complimentary copy, just drop us a line. We'll be glad to send you one promptly.

INTERNATIONAL PRINTING INK
DEPT. P. E. A., 75 VARICK STREET, NEW YORK, N. Y.

ipi

This Press Blanket Meets 1939 Needs

VULCAN makes a complete line of cylinder packings for all purposes; but for *most* 1939 requirements—specifically, for *economy* and splendid printing qualities—we recommend the popular "67-76" combination . . . the No. 67 Non-Felt Blanket and No. 76 Cork Underpacking.

FEATURES. Smooth-as-glass, oil-proof surface—resilient—does not hold surface indentations. Proper cushioning effect to compensate for variations of thickness in average plates. Remarkable uniformity of gauge—held to a maximum variation of .002". Excellent for printing halftones, heavy solids, and small type. Economy—first-cost comparable with that of a draw-sheet combination—over-all cost even lower.

Write for details and further recommendations.

VULCAN PROOFING COMPANY
First Avenue and Fifty-Eight Street,
Brooklyn, New York

SALES REPRESENTATIVES IN PRINCIPAL CITIES

ARE YOU POSTED ON 193

Circle the numbers on the coupon indicating the literature or information you want. Supply your name, title, department, firm name and address—we do the rest. Manufacturer or Supplier will send you information or literature about the equipment or supplies you request.

PRESSROOM

1 GENERAL ELECTRIC—"Will provide electrical information on any printing machine drive and controller for electrical requirements for the printing plant."

2 NEW PRESS—Built by A.T.F., coming soon. Free descriptive booklet will be forwarded to you.

3 NUMBERING MACHINES—"Wetter Rotary Press Numbering Machines allow finer adjustment . . . insure better work . . . investigate."

4 MOTORS—"Kimble Motors built specially and scientifically for printing presses and other printing machinery." Information will be sent.

5 ROLLERS—"Ideal Rollers are built to insure you against loss of printing quality." Further details and information will be sent by Ideal Roller Co.

6 PRESS BLANKET—"Vulcan non-felt blankets meet 1939 needs . . . are smooth as glass—resilient—do not hold surface indentations." Details.

7 INK—"Zephyr blacks, made by Sinclair and Valentine, cost no more than ordinary inks . . . speed production . . . invaluable on rush jobs."

8 PRESS—Complete description and specifications of the Goss Unitube Press will be sent. Mail the coupon.

9 STATIC BURNER—"Fra-Bur static burners are positive, simple and effective . . . most economical. Eliminate web static trouble."

10 TWO COLOR ROTARY PRESS—"Cottrell Claybourn will furnish a booklet printed without makeready on the Cottrell Claybourn Two-Color Rotary Press."

11 TYMPAN—"Low-priced, exceptional strength with hard, even surface." Riegel Paper will send trial sheets of 'certifine.' State size and press.

12 INK—"Lithographers like the sharp, clean Litho colors and the faster drying which the new I.P.I. offset inks make possible."

13 LUBRICATION—"No time out for oiling . . . no forgotten bearings. Bijur lubrication provides correct oil film to each bearing automatically."

14 Rollers—"Dayco rollers do not crumble, blister, run down, crack, or pull apart. Pay for themselves in extra production and cost savings."

15 INK—"Morrill Dullset Ink covers uniformly . . . prints sharp and clean without offset or smudging."

16 PRESS DRIVES—Information on Cline drives, pasters, reels and tensions. Cline electrical system brings efficient operation and control to the modern newspaper and publishing plant . . . Gives flexibility of press combinations in a most efficient manner.

17 ROLLERS—Composition, rubber or vulcanized oil. Sam'l Bingham's Son Mfg. Co. "combines skill, experience and progressiveness to meet the demands of printers."

18 OFFSET PRESS—"Investigate the economy and other advantages of Web Reel Fed Offset for magazines, newspapers, labels, etc." Webendorfer-Wills Co. will send information on press.

19 OFFSET PRESSES—"Eight sizes of Harris Offset Presses completely cover the requirements of modern business." Information on Litho Chemicals will also be sent.

20 INKS—"Huber controls every step in manufacture of its inks . . . from this control comes uniformity of performance." Further information costs you nothing . . . Mail the coupon.

21 WOOD AUTOPASTER—"Gives full speed splices 98.61 times out of 100." Wood Newspaper Machinery Corporation will send printed matter on this machine.

COMPOSING ROOM

22 MOLD POLISH—"Removes all dross—will not pit or score. Also information on Graph-air gun for application of graphite in lubrication of typesetting machines."

23 LINOTYPE—"Swinging keyboard saves time . . . makes keyboard mechanism easily accessible. Another Linotype feature." Information.

24 MAGAZINES—for Linotype Machines—Mold Disks rebuilt. "New catalog shows many parts on which printer can save money."

25 NEWSPAPER BASES—"Challenge bases cut time and labor costs . . . speed up handling of unmounted electros. No catches necessary to hold cuts in place." Prices and sizes.

26 SAW-TRIMMER—"C & G Saw-Trimmers, built by Milwaukee, have features worthy of your investigation."

. . . MAIL THIS COUPON FO

EQUIPMENT AND SUPPLIES?

27 INTERTYPE—"Features six-mold disks, quadding and centering device, quick changes." Further information will be gladly furnished.

28 MOLD DISKS rebuilt. Magazines for Linotype machines. New catalog on parts and repairs will be sent by Linotype Parts Co.

29 MATRIX REPAIR—"Renew old matrices for new savings with Monomelt Curle Matrix Anvil and Tool Gauge Assembly. Pays for itself."

30 MOTORS—For line-composing machines—"Enjoy trouble free operation and reduced maintenance costs by use of Cushman Offset Motors." Specifications will be sent.

31 MONOTYPE—"Is a flexible medium for putting ideas into print." Send the coupon for more details on this machine.

32 VERTICAL MITERER—"The Rouse Vertical Rotary Miterer cuts 1,000 miters per hour direct from strip material." Complete description sent.

33 CUT CEMENT—"Booth Zink Cut Cement is most economical, saves time in mounting cuts . . . provides absolutely level cut mounting . . . an aid to faithful reproduction of illustrations."

34 SPECIMEN SHEETS—Showing the larger advertising figures available in matrices for casting on the Ludlow will be mailed to you.

35 LINOGRAPH—Model 52 Linograph "has cradle for only two magazines, fast magazine action, more slugs per hour, fast mat circulation." Further details.

36 PROOF PRESS—"No. 22 Vandercook Electric Proof Press affords fastest method of proving type and plates in galleys . . . Will print 40 proofs a minute." Complete information will be sent you.

37 "INCREASED production and greater accuracy with Hammond Glider Trim-O-Saws, Routers and Easy Kasters." Free catalog.

STEREOTYPE DEPARTMENT

38 MOLDING BLANKETS—Eastern Newspaper Supply states its cork molding blankets "have extra-fine smoothness of surface and uniform density."

39 MATS—"Burgess chrome mats have laboratory controlled production. Improved printing with economy assured."

40 FOR TUBULAR MATS—Centrifugal Form-O-Scorch and Tubular Mat Molding Set are featured in American Publishers Supply advertisement. Write for details.

41 DRY MATS—"Certified Dry Mats will bring out the halftones much nearer the clarity of the original print." For samples send specifications.

42 GUMMED PACKING FELT—"Flecto," states Eastern Newspaper Supply, is "successfully used on all dry mats . . . gauges are uniform . . . easy to tear . . . will not slip."

43 WOOD MATS—"Stereotypers prefer Wood Mats because they shrink more evenly, scorch quicker, and save recasting." Sample lot sent on request.

MISCELLANEOUS

44 ZINC—"Zomo Zinc and A-Z Alloy save the engraver time and insure better work . . . they are uniform, quick, clean etching."

45 INFORMATION—Regarding space regulations, floor diagrams and rates for the National Graphic Arts Exposition, which will be held in New York September 25th to October 7th, 1939.

46 TYPE METAL CONTROL—"Imperial's 'plus plan' eliminates costly recasts and production losses. Controls metal quality." Details will be sent.

47 NEW BOOK—"Gives the story of industry's newest and most efficient light source—The 100 watt Cooper Hewitt Fluorescent Lamp." It's freely offered.

48 ANNIVERSARY SPECIALS—Chicago Printers' Machinery Works will send special catalog and prices on super values in Printing Machinery.

This coupon must be filled out completely in order to secure the literature or information you request. Circle only those bulletins you particularly want. This service is *only* for production and mechanical executives.

For Production and Mechanical Executives Only.

PRINTING EQUIPMENT ENGINEER **April**

Without obligation please have the manufacturers send me literature or information circled below. (These numbers correspond to numbers on descriptive paragraphs).

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48

PRINT YOUR NAME AND ADDRESS

NAME.....TITLE.....DEPT.....

FIRM NAME.....

STREET.....CITY.....STATE.....

LITERATURE

For Efficiently Preparing Tubular Mats

The Tubular Mat Molding Set

Champion Cork Creeper .090 . . . $4.75
Used next to the mat

Superior Red Fibre Board $\frac{1}{16}$" . . . 2.00
Used over the creeper

Metro "B" Cork Molder $\frac{1}{4}$" . . . 2.50
On top, next to the roller

The Set . . . $9.25

Special: AS INTRODUCTORY OFFER THE COMPLETE SET AS ABOVE FOR **$8.50**

The Centrifugal Form-O-Scorch

The one method by which Tubular Mats can be prepared to the highest state of perfection is featured only in the Model "S" Form-O-Scorch. Centrifugal force curves the mat to perfect cylindrical shape. Write for details of the improved model.

AMERICAN PUBLISHERS SUPPLY

BOX 131—WEST LYNN, MASS.

Equipment Sales

Buys More Wood Press Units

The Wood Newspaper Machinery Corporation, Plainfield, N. J., has announced that the New York *Times* has placed an order for six more high-speed steel printing units, with two folders. The new press units are of standard Wood design, with steel frames 10 in. thick and cylinders of forged steel running in pre-loaded SKF bearings. The plate cylinders are to be equipped with Autoclamps, which automatically lock the plates on the cylinders. A safety feature makes it impossible for the press to start unless the plates are locked in place. The folders for the new press units will be Wood heavy-duty type for handling both light and heavy products at full running speed of the press. All six press units will be fed by Wood heavy-duty Autoreels, each equipped with Autopasters. When the new press units have been installed, the New York *Times* will have a total of 52 Wood steel units in operation, all equipped with Autoreels and full-speed Autopasters.

Recent Linotype Installations

Linotypes recently have been installed by the Pampa Publishing Company, Inc., Pampa, Texas; *Banner Press*, Marble Hill, Mo.; York (Pa.) *Dispatch;* Greenville (Ky.) *Leader;* Walpole (Mass.) *Press;* The *Post-Tribune* and the *Capital-News*, Jefferson City, Mo.; Fort Recovery (O.) *Journal;* The B. M. Chandler Company, Somerville, Mass.; Tolliver Printing Company, Lodi, Calif.; William F. Koenig, Jr., Philadelphia, Pa.; Lincoln (Neb.) *Daily Reporter;* Martin Printing Company, Greenville, S. C.; William M. Bear, Ash Grove, Mo.; Claremont (N. H.) *Advance;* Moss Printing Company, St. Louis, Mo.; Glendale (Calif.) *Independent;* Bridgewater (S. D.) *Tribune;* Star Valley Independent, Afton, Wyo.; The Methodist Protestant Church, Baltimore, Md.; Stevens Point (Wis.) *Daily Journal; The Press* and the *Courier*, Evansville, Ind.; The *News* and the *Journal*, Wilmington, Del.; Raeford (N. C.) *News-Journal;* Rotary Press Company, St. Paul, Minn.; Dallas (Ga.) *New Era;* Holt County Independent, O'Neill, Neb.; The Hilltop Record, Columbus, O.; Watkins *Review*, Watkins Glen, N. Y.; *Upton County Journal*, Rankin, Texas; New York *Times*; The Langley *Advance*, Langley Prairie, B. C., Canada.

Webendorfer-Wills Installations

Recent installations of Webendorfer-Wills presses are as follows:

Consolidated Lithographing Corporation, Grand Street & Morgan Ave., Brooklyn, N. Y., 22x29 press.

Dennison & Sons, 35-37 36th Street, Long Island City, N. Y., two 17x22 presses.

York Lithograph Co., 2832 E. Grand Blvd., Detroit, Michigan, 17x22 press.

Printing Arts Co., 51 Division Ave., Grand Rapids, Michigan, 17x22 press.

Imhof Service Co., 211 High Ave., Cleveland, Ohio, 22x29 press.

Install Ludlow Equipment

Ludlows have been installed recently by the Brooklyn *Eagle;* Kansas City *Journal;* Amarillo (Tex.) *Daily Times;* East Los Angeles *Tribune;* Sioux Falls (S. Dak.) *Argus-Leader;* Medford (Ore.) *Mail-Tribune;* Hazelton (Pa.) *Plain Speaker* and *Standard-Sentinel;* Passaic (N. J.) *Il Cittadino;* Detroil *Polish Daily News;* and by the Greenville (S. C.) *Observer.*

Install Elrod Equipment

Elrod lead, slug, rule and base casters have been installed recently by the Amarillo (Tex.) *Daily Times;* Newark (O.) *Advocate;* Sioux Falls (S. Dak.) *Argus-Leader;* Los Angeles Griffith Park *News;* Danville (Ill.) *Commercial-News;* Aliquippa (Pa.) *Gazette;* Yonkers (N.Y.) *Herald-Statesman*, and by the Kankakee (Ill.) *Republican-News.*

Modernizes Ludlow Equipment

The Government Printing Office has replaced two older model Ludlows with completely-equipped modern machines. At the same time new ruleform matrices were purchased. Ludlow equipment is employed for the composition of various forms for various governmental departments and agencies, for display and miscellaneous composition. The typeface matrix selection now numbers over 200 fonts, with a ruleform layout in all sizes. The Government Printing Office installed a Model E Elrod some time ago.

De Luxe Lydian Specimen

A 16-page deluxe specimen of American Type Founders new Lydian and Lydian Italic has just been released.

In addition to a complete showing of the two type faces, it contains examples of the use of Lydian for advertising and printing typography. A brief biography of Warren Chappell who designed Lydian is included. *P-Double-E File No. 1EE5.*

FAMOUS *Bad* GUESSES

● It's a bad guess too, for the type metal user to say that the customer or advertiser will "never know the difference" between good and bad type metal. Bad type metal (that is type metal not properly controlled and balanced) can cause broken letters, hollow slugs, muddy halftones, delays in delivery and an inferior appearance in the final job. Good metal, Imperial type metal, because it is always in balance, casts clean and solid, with sharp faces and clean halftones. It casts right the first time, which speeds up the work, and in addition saves fuel bills, reduces dross and actually gives lower yearly metal costs. Investigate Imperial and the Plus Plan.

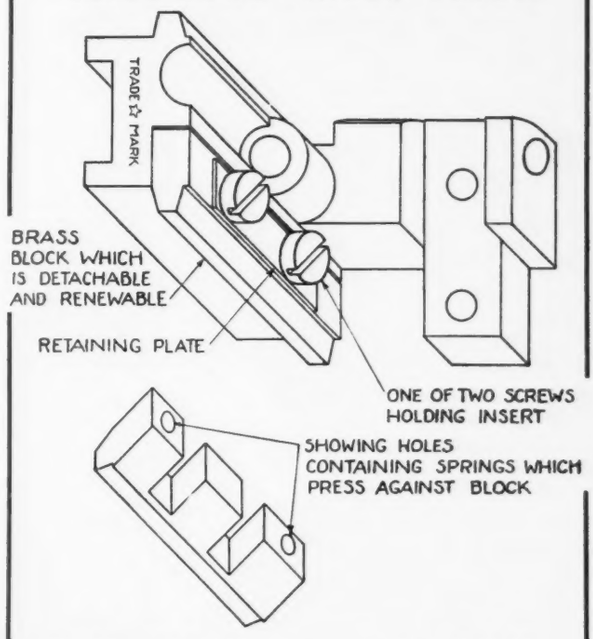
IMPERIAL TYPE METAL COMPANY

PHILADELPHIA • NEW YORK • LOS ANGELES • CHICAGO

Imperial

TAKES THE GUESS OUT OF TYPE METAL

EVERLASTING ADJUSTABLE DELIVERY SLIDE LONG FINGER BLOCK


TRADE ☆ MARK
BRASS BLOCK WHICH IS DETACHABLE AND RENEWABLE
RETAINING PLATE
ONE OF TWO SCREWS HOLDING INSERT
SHOWING HOLES CONTAINING SPRINGS WHICH PRESS AGAINST BLOCK

The block should last forever! The adjustable insert keeps the entire delivery slide *erect*—reducing wear on the *short finger block*—prevents the long finger from injuring the *assembling elevator* and the *first elevator jaw.*

Price $4.50

ONE-PIECE CHROMOLAX HEATING UNIT

(For Linotype Electric Pots)

Replace the *two* immersion units now used.

Heats up more quickly—

Sturdier

More easily installed and removed.

—

Cheaper.

Only **$30.00** Each

Precision TRADE ★ MARK Parts

LINOTYPE PARTS COMPANY

NEW YORK
203 Lafayette St.

KANSAS CITY
314 West 10th St.

Chicago 318 West Randolph St.
Minneapolis 503 Fourth Ave. South
Denver 1441 Blake St.

Patents

Recently Granted by U. S. Patent Office

Bookbinding:

2,150,104. APPARATUS FOR MAKING BOOK COVERS. Winfred Elmo Reavis, Los Angeles, Calif., assignor to Picture Cover Bindings, Inc., Brooklyn, N. Y., a corporation of New York. Original application May 25, 1936, Serial No. 81,669. Divided and this application October 10, 1936, Serial No. 105,027. 10 Claims. (Cl. 11—2.)

2. A device for positioning liner members on a cover sheet having a notch in substantially the center of the head guide edge, including: a support having a face to receive a cover sheet; guide means for positioning the cover sheet with its inner face exposed, the guide means having a head guide and a positioning member for engaging the notch when the cover sheet is in engagement with the head guide; liner guide means mounted on the support, the liner guide means including a head liner guide operative in spaced relation to the head guide, and joint defining guides comprising a pair of members extending perpendicularly to the head guide and being adapted to receive a back liner therebetween, there being means for adjusting the members relatively together and apart while maintaining the same equidistant from the positioning member; and means for raising and lowering the liner guide means relative to the face of the cover support.

Composing Machines:

2,144,969. SPACEBAND BUFFER FOR LINOTYPE MACHINES. William D. Hahn, Ann Arbor, Mich. Application May 11, 1938, Serial No. 207,388. 5 Claims. (Cl. 199—22.)

1. A device comprising, a buffer fashioned with an elongated finger adapted to be adjustably mounted for movement on a Linotype machine subjacent the assembler of the latter, and a spring pressed member mounted on one end of the finger for receiving thereon spacebands discharged into the assembler in a manner to receive the impact of the bands to preclude wear on the finger.

2,148,549. AUTOMATIC CONTROL OF QUADDING AND CENTERING DEVICES. Maurus T. Goetz, Chicago, Ill., assignor, by mesne assignments, to Teletypesetter Corporation, a corporation of Delaware. Application December 31, 1934, Serial No. 759,832. 20 Claims. (Cl. 199—50.)

1. In a line composing machine, matrix assembling means, a casting mechanism, means associated with the casting mechanism for supporting a line of assembled matrices in slug casting positon, means for supporting a line of assembled matrices intermediate the matrix assembling means and the casting mechanism, storage means for receiving a casting operation modifying signal to affect an assembled line of matrices contained in the assembling means, storage means for receiving a modifying signal to affect a line of matrices contained in the intermediate supporting means, storage means for receiving a modifying signal to affect an assembled line of matrices contained in the casting mechanism, and transfer apparatus for advancing the modifying signals from each of the storage means to a succeeding storage means progressively as its associated lines of matrices are advanced.

2,149,305. LINE-CASTING MACHINE. Arthur C. McGrath, Chicago, Ill., assignor of one-half to Melville Keim, Maple Lane, Highland Park, Ill. Application January 13, 1936, Serial No. 58,961. 2 Claims. (Cl. 22—2.

2. A casting box adapted for use with a line-casting machine, comprising: a rear casing member having at its bottom a forwardly extending platform, the member being equipped with means for locking the member to the machine, and a slotted front cover resting on the platform and spaced from the rear casing member, the cover being adapted to slide along the platform to vary the spacing between the cover and the rear casing member.

2,150,339. CRUCIBLE MOUTHPIECE FOR TYPE CASTING MACHINES. Seymour Rabinowitz, New York, N. Y. Application August 11, 1937, Serial No. 158,463. 1 Claim. (Cl. 199—47.)

In typecasting apparatus, a crucible mouthpiece, mold members associated with the mouthpiece to form a mold cavity, the mouthpiece having a plurality of holes for passing molten metal to the cavity, a plurality of notches formed in the mouthpiece, the notches and the holes being alternately arranged and the notches communicating with the cavity for receiving air from the cavity displaced by oncoming molten metal, the mouthpiece and one of the mold members being arranged to provide a passage having communication with the notches for receiving air therefrom, the passage being adapted to be exhausted of air and thereby exhausting the cavity of air.

Patent Papers

Printed copies of patents are furnished by the United States Patent Office at 10 cents each. Address the Commissioner of Patents, Washington, D. C. and enclose 10 cents for each patent paper wanted.

Feeding, Folding, Delivery:

2,144,881. SHEET FEEDING MECHANISM FOR PRINTING MACHINES. William F. Huck, Richmond Hill, N. Y, assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application May 9, 1936, Serial No. 78,802. 2 Claims. (Cl. 271—56.)

1. The combination of a sheet fed printing machine having a cylinder tripping mechanism and a feed table on which the sheets are registered prior to being taken by grippers on an impression cylinder, a sheet withdrawing member biased to withdraw a misfed sheet and prevent it from being taken by the grippers, a first latch means adapted to hold the withdrawing member in inoperative position during press operation, means connected to the cylinder tripping means to release the latch means, a manually operated member adapted to move the withdrawing member to inoperative position, and a second latch means adapted to hold the withdrawing member in inoperative position prior to press operation.

2,144,930. PAPER FEEDING MECHANISM. Walter B. Payne, Rochester, N. Y., assignor to The Todd Company, Inc., Rochester, N. Y., a corporation of New York. Application January 30, 1937, Serial No. 123,161. 19 Claims. (Cl. 271—2.4.)

1. A sheet feeding mechanism comprising means for advancing a sheet, a driven member having a normally fixed reciprocating movement, a motion transfer member operatively connected to and bodily movable with the driven member, a positive operating connection between the motion transfer member and the sheet advancing means, operating means for moving the driven member through its normally fixed movement, and a normally stationary means cooperating with the motion transfer member throughout the entire movement of the driven member for controlling the degree of movement imparted by the motion transfer member to the sheet advancing means when the driven member is moved by the operating means.

2,149,130. SHEET FEEDER. Leonard Baker, Hillsdale, N. J., assignor to Dexter Folder Company, New York, N. Y., a corporation of New York. Application July 25, 1935, Serial No. 33,002. 20 Claims. (Cl. 271—62.)

1. In a sheet feeder, means for moving a supply of sheets, pawl and ratchet mechanism for operating the same, reciprocating means for feeding sheets from the supply and for operating the pawl and ratchet mechanism, a pivoted device for controlling the operation of the pawl and ratchet mechanism by the reciprocating means, a cam on the reciprocating means for oscillating the pivoted device, and supply controlled means connected with the device for rendering the same effective or ineffective.

2,149,366. METHOD AND APPARATUS FOR UNITING PRINTING WEBS. David J. Seaman and Howard H. Metcalf, Battle Creek, Mich., assignors, by direct and mesne assignments, to Seaman-Metcalf Incorporated, a corporation of Michigan. Application February 25, 1935, Serial No. 7,958. 37 Claims. (Cl. 270—32.)

1. A method of uniting associated webs in a newspaper press or the like comprising the step of uniting longitudinally spaced portions of webs having a fold line region at press speed while in a superimposed state by forcibly penetrating the body of the webs with an adhesive applied to the webs in the region of the fold line.

35. The combination with means for guiding a doubled web along its course, of means for perforating the web and means for applying an adhesive to the edges of the perforation of the web at the time and at the points at which it is perforated.

2,149,462. MACHINE FOR INSERTING SUPPLEMENTS INTO FOLDED SIGNATURES. Ernst Oppliger, Zofingen, Switzerland, assignor to Beweg A-G., Werkstatte fur das Graphische Gewerbe, Bren, Switzerland, a joint-stock company of Switzerland. Application June 2, 1937, Serial No. 146,035. In Switzerland June 2, 1936, 6 Claims. (Cl. 270—55.)

1. In a machine for inserting supplements into folded signatures the combination, a feed table having an inclined guide path for the signatures, a guiding ledge adapted to receive the lower edges of the signatures, a first inserting device at the end of the guide path adapted to feed the signatures to the feed table, a second inserting device at the other end of the feed table adapted to insert the supplements into the opened signatures, a rod arranged parallel to and near the upper edge of the guide path, a file of spaced sucking members slidingly arranged on the rod, the number of these sucking members corresponding to the number of leaves to be opened, means to impart a reciprocating and a lifting movement to the sucking members to lift the single leaves of the signatures at their forward edges, stationary guide rails arranged parallel to the signatures and held in the path of the lifted edges and adapted to maintain the leaves lifted up until the supplement has been nested into the signature, and conveying belts for the signatures and means adapted to push the fed signatures within reach of these belts.

Success of Exposition Assured

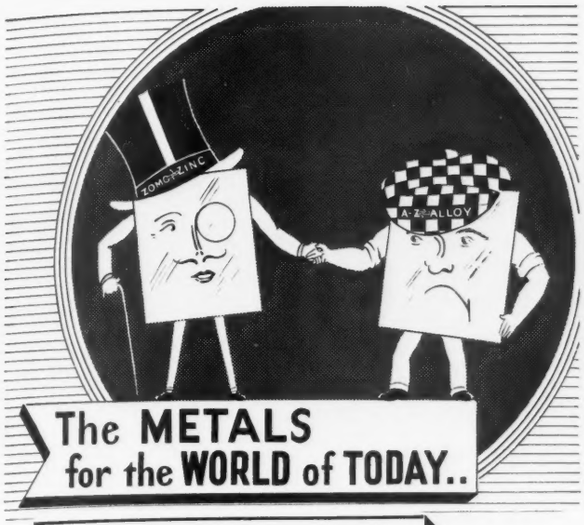
Says General Manager Fred W. Hoch of the Fifth Educational Graphic Arts Exposition, which will be held in New York's Grand Central Palace, Sept. 25 to Oct. 7, inclusive:

"The success of the Exposition is definitely assured more than six months before its opening. If not another additional foot of space was sold, we would have one of the greatest displays of modern equipment and supplies ever offered to the industry, featuring most of the wonderful improvements which have been made by the leading manufacturers of printing machinery during the past twelve years.

"For this showing, we are going to have the greatest audience of interested spectators ever assembled in our industry. Early reports to the Convention Committees of the various Graphic Arts organizations which are in session in New York during the period of the Exposition indicate record attendances."

As of March 10, Exposition Manager Hoch announced that the following equipment manufacturers and suppliers have taken space for the Fifth Graphic Arts Exposition:

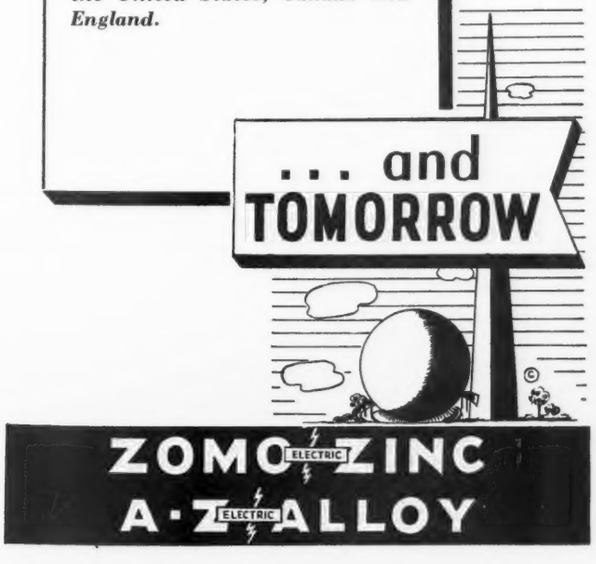
American Type Founders Sales Corp.
Binks Manufacturing Company
Boston Wire Stitcher Co.
Brandtjen & Kluge
Challenge Machinery Co.
Chandler & Price Co.
Christensen Machine Company
Cline Electric Manufacturing Co.
Cottrell, C. B., & Sons
Craftsman Line-Up Table Corp.
Dexter Folder Company
Disston, Henry, & Sons
Embossograph Process Company, Inc.
Fuller, E. C., Company
Hamilton Mfg. Company
Harris-Seybold-Potter Company
Imperial Type Metal Company
Intertype Corporation
Krug Electric Company
Lanston Monotype Machine Co.
Ludlow Typograph Company
Mergenthaler Linotype Company
Miehle Printing Press & Mfg. Co.
Miller Printing Machinery Co.
National Association of Printing Ink Makers
Prentiss, Geo. W., & Co.
Printing Machinery Co.
Stereotype Equipment Co.
Rapid Roller Company
Rosback, F. P., Company
Rouse, H. B., & Co.
Thomson-National Press Company
United American Metals Corp.
U.P.M. Kidder Press Company, Inc.
Vandercook & Sons, Inc.
Warren, S. D., Company
Webendorfer-Wills Co., Inc.
Wetter Numbering Machine Co.



Metals in keeping with the demands of modern engravers are A-Z Alloy and Zomo Electric Zinc. Melted and cast in the Electric Induction Furnace, these metals are quick, clean etching with a uniformity which assures results worthy of the world of tomorrow.

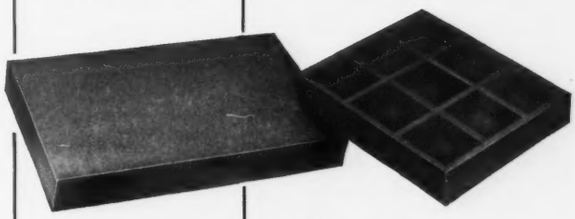
★ ★ ★

You can order A-Z Alloy and Zomo Electric Zinc, plain or BACKOTED from leading metal suppliers in the United States, Canada and England.



The word is

NO LOST MINUTES **"SPEED"**



When you use

Challenge "Sta-Rite"

NEWSPAPER BASES

★ Cut time and labor costs . . . speed up the handling of unmounted electros, half-tones and zincs for stereotyping. Simply put Challenge Newspaper Bases in the form — lay the plates on top — and you're ready to "put the paper to bed." No hooks — no catches necessary to hold plates in place.

"Sta-Rite" Bases are made from fine-grained steel alloy castings with utmost precision. They come in solid or cored bases — will not dent or bruise — and withstand tight locking and intense heat. They are accurate, rigid — will not "give" or sag under pressure — non-shrinkable, and are a permanent addition to the equipment of any shop.

Inquire into the advantages of these bases and send for prices and sizes at once. Also investigate the Challenge Newspaper Base Cabinet — a time and labor-saver for the make-up man. Write today!

THE CHALLENGE MACHINERY CO.

GRAND HAVEN, MICH. S-176

CHICAGO NEW YORK

2,149,832. ROLL OF PAPER FOR HIGH SPEED PASTERS. David G. Bernard, Chicago, Ill., assignor, by mesne assignments, to Donald M. Carter, Chicago, Ill. Application April 22, 1932, Serial No. 606,873. 5 Claims. (Cl. 242—58.)

3. A roll of paper arranged for making a high speed paster, having the end of its web substantially parallel with the longitudinal axis of the roll and reinforced by a separate reinforcing part attached to the outer face of the leading edge, and tabs connected with the end of the reinforced web and projecting beyond the end of the web, the tabs being attached to the periphery of the roll beyond the end of the web, the tabs being weakened intermediate their ends.

2,149,833. MEANS FOR PREPARING A ROLL OF PAPER FOR HIGH SPEED PASTERS. David G. Bernard, Chicago, Ill., assignor, by mesne assignments, to Donald M. Carter, Chicago, Ill. Application April 22, 1932, Serial No. 606,874. Renewed November 16, 1936. 3 Claims. (Cl. 242—58.)

3. A roll of paper arranged for making high speed pasters comprisng a web having a substantially straight leading edge near the middle of the roll and extending along the greater portion of the length of the roll, a separate reinforcing member attached to the leading edge of the web and extending therealong, and a weakened connecting means forming a part of the reinforcing means for connecting the reinforcing member with the convolution at the surface of the roll which underlies the last convolution of the roll, the weakened portion of the weakened connecting means being adjacent the free edge of the last convolution on the roll and between such edge and that portion of the underlying convolution to which the reinforcing member is attached.

Miscellaneous:

2,144,764. BOX FORMING SYSTEM. Ludwig H. Lange and Charles H. Nitsch, Philadelphia, Pa., assignors to Stokes and Smith Company, Philadelphia, Pa., a corporation of Pennsylvania. Application September 29, 1937, Serial No. 166,280. 26 Claims. (Cl. 93—54.2.)

1. A system comprising a machine for applying sheets to box structures, conveyor means for transporting adhesive-coated sheets toward the machine, mechanism for applying adhesive to the sheets, and means controlled by the machine to initiate movement of the conveyor means and controlled by the adhesive-applying mechanism to terminate movement of the conveyor means.

2,144,849. PRINTING FIXTURE FOR GLASS DIALS AND THE LIKE. Samuel A. Moore, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich. a corporation of Delaware. Application October 26, 1936, Serial No. 107,555. 6 Claims. (Cl. 101—407.)

1. In a printing fixture for fragile articles, a base, a plate member, spring members for biasing the plate member away from the base, means which limits the biasing movement, a rubber pad secured to the plate member, and means for securing a fragile article to the rubber pad comprising fixed stop members and resilient clamping arms pivoted to the plate member.

2,148,550. PRINTING DEVICE. Heinrich Ernst Haase, Chicago, Ill., assignor to Industrial Patents Corporation, Chicago, Ill., a corporation of Delaware. Application December 7, 1936, Serial No. 114,689. 17 Claims. (Cl. 101—36.)

1. A device for printing tubular articles comprising a rotatable printing roller, means for applying ink to the roller, means positioned to support one wall of the tubular article in contact with the roller and means for stretching the inner wall of the article at the point of contact of the roller.

2,148,739. MECHANISM FOR DRYING THE PAPER IN PRINTING PRESSES. Gustave A. Friess, Rye, N. Y., assignor to News Syndicate Co., Inc., New York, N. Y., a corporation of New York. Application August 3, 1935, Serial No. 34,561. 2 Claims. (Cl. 34—48.)

1. A method of drying a printed web of paper while moving the web of paper, which consists in directing a counter current of air along the printed surface of the web of paper, then heating the web of paper at the rear surface of the paper by direct conduction from a heated member and then subjecting the printed surface of the heated paper to a second current of air, moving in the same direction as the paper, while substantially preventing any escape of the air which is forced along the printed side of the paper.

2,149,478. PRINTING MECHANISM. James M. Triner, Chicago, Ill., assignor to Triner Scale & Manufacturing Company, Chicago, Ill., a corporation of Illinois. Application March 27, 1936, Serial No. 71,154. 5 Claims. (Cl. 101—93.)

1. In a printing-mechanism, the combination of a rotary wheel carrying a series of type-legends on a side face thereof adapted by its movements to bring the legends individually into a printing position, slidable means having a bevelled surface to engage the side face of the wheel opposite that bearing the legends to hold and to support the wheel clamped against movement during the printing action, means to guide the element to be printed into position with relation to the type-legend of the wheel which is in printing position, means to press the element and the type-legend against one another to affect the printing operation, and means common to the holding-means and pressing-means to slide the holding-means to clamp the wheel against movement and then to actuate the pressing-means o effetct the printing action.

(*Continued on Page 54*)

Baffle

(*Continued from Page 34*)

is an important factor in the production of slugs with solid support directly under the type characters. The metal pot is adjusted for height so that the mouthpiece jets are uniformly 0.005 in. above the top of the mold body, as indicated in Fig. 3. This adjustment insures the maximum delivery of type metal to the mold and is especially important when casting headletter and display slugs of the larger point sizes. In addition, the 0.005 in-adjustment insures ideal location of the mouth. piece jets with respect to the characters punched in the matrices. As is generally known, the characters of all matrices are aligned positively with respect to the constant line of the mold body, as indicated at *a*, Fig. 3.

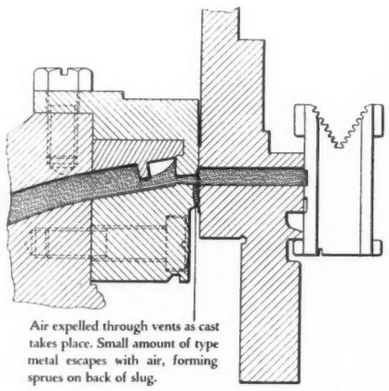

Air expelled through vents as cast takes place. Small amount of type metal escapes with air, forming sprues on back of slug.

Fig. 4.—Cross-section diagram shows filling of the mold with metal to form the slug. Some of the air in crucible throat back of mouthpiece is pocketed in front of baffle 2, *shown in Fig.* 2.

In locating the mouthpiece jets as closely as possible to the top of the mold body, definite provision is being made to direct the first and the strongest flow of type metal directly against the characters punched in the matrices. Since the type metal is deflected from the matrices toward the back of the mold, it is obvious that any remaining air in the mold will be driven back toward the base and the body of the slug, as indicated. It is important to note, too, that the type metal tends to solidify most rapidly at the front of the mold as soon as it contacts the cold matrices. Consequently, the effective displacement of air and the rapid solidification of the type metal at the front of the mold insure slugs of close grain and microstructure directly under the type characters.

Metal Mixed and Skimmed

The factors outlined previously in the displacement of air during the cast have contributed toward the production of slugs with sharp type characters. In addition, the baffle in the mouthpiece eliminates a serious condition related to imperfect faces, namely, the projection of hard dross particles against the matrix characters. In the new style mouthpiece, the molten metal is mixed and skimmed before it passes through the mouthpiece jets into the mold, and the molten metal used in the cast is drawn from the bottom of the crucible. Since this metal is not exposed to air and is free from consequent impurities, the defects in the body and face of the slug attributable to such impurities are minimized. As the metal is forced upward through the crucible throat into the mouthpiece, it is driven in large volume against the baffle (Fig. 2) and is then forced into a concentrated stream under the baffle into the second chamber of the mouthpiece (Fig. 3), from which point it passes into the mold. The baffle may be regarded as a skimming agent in that it permits only the metal from the bottom of the crucible to pass into the mold. The oxide impurities which usually accumulate on the surface of the metal are broken up and dispersed during each cast. The baffle also has the effect of thoroughly agitating and mixing the ingredients of the type metal prior to the cast.

Importance of Ventage

The displacement of air from the crucible and the mold has been indicated in connection with the construction of the baffle and its momentary retarding effect upon the flow of the type metal as the cast occurs. While this action permits the escape of the greater part of the air, added provision is made in the design of the mouthpiece vents to facilitate the displacement of air from the mold as it is filled with molten type metal. It should be borne in mind that the volume of air to be displaced from the mold is not a constant factor—each time the mold is changed, a greater or a lesser volume of air must be displaced, depending upon the size of the slug to be cast. The design of the mouthpiece vents has been changed with this factor in mind. The vents have been widened at the center to receive the maximum discharge of air when the metal is driven into the mold under compression. The tapering construction of the vents causes the vent sprues to adhere to the base of the slug when the metal pot withdraws after the cast. The openings at the base of the vents are provided to permit a slight discharge of type metal after the mold is filled. The vent discharge should be sufficient to produce sprues approximately ½ in. in length. This condition is of basic importance because it governs the extent to which the remaining air in the mold is discharged. The bottom of each vent leads into a back step *b*, Fig. 3, in the mouthpiece, insuring greater efficiency of air and type metal ventage. It is essential that the mouthpiece vents be cleaned occasionally with a scriber to remove dross and oxide accumulations. If these substances are allowed to clog the openings, the efficiency of ventage will be reduced considerably.

Uniform Mouthpiece Temperature

The temperature of the baffle mouthpiece is more accurately and uniformly controlled because its thickness 3, Fig. 1, has been increased considerably. The thick body of the mouthpiece is evenly heated on gas and electric pots, the heat being distributed equally along the center and the extreme ends of the mouthpiece. Due to the increased amount of steel in the mouthpiece, the heat penetrates it more evenly and is retained over longer periods of time. This factor minimizes to a great extent the harmful effects of temperature fluctuations.

Removing Baffle Mouthpiece

The baffle mouthpiece can be removed from the crucible so as to provide access to the crucible throat and facilitate the process of removing dross accumulations when necessary by turning out the screws which fasten it to the crucible. These screws are coated with a paste made of linseed oil and graphite to prevent binding in the threaded holes in the crucible. When the screws are replaced, they should be recoated with the paste to facilitate removal the next time. The sidewise adjustment of the mouthpiece with respect to the mold, as previously described, is facilitated by enlarging the holes in the mouthpiece through which the fastening screws pass.

"We picked a good man in Charlie Trench,"

—said the mechanical superintendent about his new head engraver. "That page of society pictures on Sunday was a gem —good enough to frame!"

Charlie is a mighty able chap, but he hasn't had quite all the handicaps of his predecessor, since he took hold about the time of the change to Certifieds.

For dependable stereotyping, rely on Certified Mats, made in the U. S. A.

CERTIFIED DRY MAT CORPORATION

9 Rockefeller Plaza, Dept. M,
New York, N. Y.

Certified
DRY MATS

ZINK CUT CEMENT PRICES in the United States: 75c per large tube; $6.00 per dozen tubes; $5.00 per dozen tubes in gross lots. Stand-A-Lone Holders 2 for 25c, per doz. $1.00.

The Time Element

Production operations in a printing plant are performed against the time element. For this reason you should check up on your production operations occasionally to see if things are being done most efficiently in the shortest possible time. Booth's Zink Cut Cement has withstood many checkups by mechanical executives—repeat orders prove it. If you are not now using it, we feel confident you will like its time-saving qualities and its ability to hold all kinds of cuts to wood or metal base.

Incidentally, if you are not now using Booth's Green Rubber Keyboard Rolls for line-casting machines, we will be pleased to have you order a pair at $1.30; $7.00 per dozen. U. S. only.

Foreign Distributors:
SEARS, LTD.
Toronto, Montreal, Winnipeg, Vancouver, Canada
JUNGER & JUNGER
Goteborg, Sweden

E. A. BOOTH RUBBER COMPANY
364 ROCKEFELLER BUILDING · CLEVELAND, OHIO

Patents

(*Continued from Page 52*)

2,149,072. MORTISE LOCK FOR PRINTING BLOCKS. Richard T. Roby, Kansas City, Mo. Application July 11, 1938, Serial No. 218,498. 3 Claims. (Cl. 101—394.)

1. In combination, a printer's chase and a type block, the type block being formed with a mortise opening, type, type slugs or cuts in the mortise opening, expansible means wholly within the chase for reacting in opposite directions against the chase and the type block to clamp the latter in the chase, and means cooperating with the expansible means to simultaneously clamp the type, type slugs or cuts in the mortise opening in the type block.

2,149,266. SPRAYING DEVICE. Theodore J. Beregh, Patchogue, N. Y., assignor to Beregh Manufacturing Co., Inc., New York, N. Y., a corporation of New York. Application September 29, 1936, Serial No. 103,078. 3 Claims. (Cl. 101—416.)

1. A spraying device comprising a standard, an atomizer supported from the standard, a valve and trigger for the atomizer, the valve having means tending to normally close the valve and the trigger when operated functioning to open the valve, a lever on the standard, means connecting the trigger and lever, the means providing a spring for exerting tripping tension on the trigger, and means for swinging the lever to relieve the tension and enable the valve to operate under influence of the means tending to close the valve and in a direction adverse to the direction of operation exerted by the spring tension.

2,149,916. DECALCOMANIA. Ferdinand W. Humphner, Oak Park, Ill., assignor, by mesne assignments, to Mid-States Gummed Paper Company, a corporation of Delaware. Application August 7, 1935, Serial No. 35,174. 1 Claim. (Cl. 41—33.)

A decalcomania paper comprising a water-leaf backing sheet containing dye in sufficient quantity to impart a distinctive color to the paper, and a coating of adhesive thereon adapted to take decalcomania printing.

2,149,984. AUTOMATIC SHOW CARD PRINTING DEVICE. Lyman A. Stinson, Chicago, Ill., assignor of one-half to James L. Allen, Wilmette, Ill. Application September 11, 1936. Serial No. 100,239½. 18 Claims. (Cl. 197—2.)

1. Show card printing apparatus comprising a base, a card supporting platform thereon, a type carrying disk mounted above the platform at an angle of 45 deg., individual type members thereon, means for selecting any one of the type members for operation, and power means including a resiliently mounted hammer for moving a selected type member to printing position.

2,150,016. METHOD OF PRINTING AND PUNCHING BLANKS. Andrew C. Wood, Chicago, Ill., assignor to Dixie-Vortex Company, a corporation of Delaware. Application June 7, 1935, Serial No. 25,438. 7 Claims. (Cl. 270—1.)

1. In the art of making paper containers, the method of printing and punching blanks, including first printing a plurality of continuous sheets of stock, aligning the printed sheets, and simultaneously punching complete blanks from an intermediate region of the aligned sheets.

2,150,174. APPARATUS FOR SECTIONING OF INKING ROLLERS. Harry E. Lambert, Berwyn, Ill., assignor to Ideal Roller & Manufacturing Company, Chicago, Ill., a corporation of Illinois. Application January 6, 1936, Serial No. 57,733. 7 Claims. (Cl. 18—1.)

1. A machine for forming an annular groove in the composition surface of an inking roll having, in combination, means rotatably supporting the roll, a tool having an edge corresponding in length to the width of the groove to be formed and tending to move edgewise toward the axis of the roll, means for maintaining the edge heated to a temperature at which the composition will flow, and a follower movable with the edge and engageable with the peripheral surface of the composition and acting during rotation of the roll to determine the depth to which the edge may enter the composition.

Henry A. Wise Wood Passes

Henry A. Wise Wood, Chairman of the Board, Wood Newspaper Machinery Corporation, passed away in New York on the night of Sunday, April 9th, after a short illness. He was 73. Mr. Wood occupied an important place in the development of newspaper printing. His major inventions were high-speed newspaper printing presses, the autoplate, the autoreel and the autopaster. Many of his inventions were introduced in the plant of the New York *Times*.

Plate Making:

2,145,036. PROCESS OF PREPARING PRINTING PLATES. George Adams, Detroit, Mich. No Drawing. Application September 27, 1937, Serial No. 165,891. 2 Claims. (Cl. 95—5.6.)

1. The method of preparing an intaglio printing plate which comprises providing a translucent plate with a minutely pocketed surface, substantially filling the pockets of such surface with a material adapted to be rapidly fixed therein and rendered insoluble to a selected solvent by exposure to light, placing the plate so prepared in a camera with the filled pocket surface away from the lens, and exposing it to light modulated by the lens of the camera, to fix such substance in such pockets to varying depths, and removing the unfixed substance from the pockets.

2,148,519. PROCESS OF MAKING PRINTING PLATES. William J. Wilkinson, Eastchester, N. Y., assignor of one-half to Miehle Printing Press and Manufacturing Company, Chicago, Ill., a corporation of Illinois. Application August 19, 1937, Serial No. 159,895. 24 Claims. (Cl. 95—5.7.)

23. The method of making a photographic-transparency from a screened subject and in the making thereof blurring the dots of the subject in the transparency but retaining the sharp characteristics of the subject-image therein and making a second photographic-transparency from the first transparency through a screen and in the making thereof converting the set of blurred dots of the first transparency into a set of comparatively sharp dots in the second transparency different from those of the original screened subject and at the same time preserving the sharp definition of the subject-image in the second transparency.

2,148,558. METHOD AND APPARATUS FOR COATING CYLINDERS. William C. Huebner, New York, N. Y. Application September 7, 1937, Serial No. 162,665. 14 Claims. (Cl. 91—43.)

4. The improvement in the method of coating the cylindrical surface of a cylinder with a light-sensitive coating material, which includes: applying a quantity of the material, while in liquid condition, over the cylindrical surface of the cylinder and then simultaneously rotating the cylinder about its own axis to circumferentially distribute the material and bodily rocking the cylinder about a horizontal axis transverse to the cylinder axis to distribute the material alternately endwise of the cylinder until the material is set.

7. In a cylinder coating apparatus, the combination with a base; of a carriage having means for mounting the cylinder thereon to rotate about its own axis; means for rotating a cylinder about its own axis when so mounted on the carriage; and means movably connecting the carriage to the base to allow one end of the cylinder mounted on the carriage being alternately positioned lower and then higher than the other end of the cylinder.

ON ROTARY PRESSES TOO,

Number better with a WETTER

• Save press time with WETTER Rotary Numbering Machines. WETTER features speed locking time and allow finer adjustment. WETTER interchangeability for right angle or parallel operation reduces necessary investment. WETTER accurately turned figures for all size cylinders insure better work.

Tell us your problem and we will show you how to save money and number better with a WETTER.

WETTER NUMBERING MACHINE CO.
ATLANTIC AVENUE & LOGAN STREET, BROOKLYN, N. Y.

Technical Literature

Monotype 20th Century

Lanston Monotype Machine Company has issued a 16-page showing, 10¾ in. by 16 in., of Monotype 20th Century Family. Includes specimen lines of all available sizes with suggested composition arrangements, color separation of commercial jobs and single-color newspaper and magazine advertisements. A copy will be sent to anyone asking for it. *P-Double-E File No. 1G5.*

What Klean-O-Mat Is

Folder illustrates and describes Klean-O-Mat process for cleaning line-casting machine magazines and matrices, keyboard cams and escapement verges. *P-Double-E File No. 1G6.*

Counting Equipment Bulletin

Bulletin describes Lipman Engineering Co. PC-3 High-Speed Photo-Electric Counting Equipment for counting, sorting, inspecting, signalling, timing, etc.

Fluorescent Lighting Fixtures

The Miller Company publishes an illustrated booklet describing indoor daylight (fluorescent) lighting fixtures for use with one or more tubes. *P-Double-E File No. 1GG.*

Newspaper Composing Room Equipment

Hamilton Mfg. Co. has just published a new catalog (No. 21) illustrating its line of newspaper composing room equipment. Included with the catalog is a bound set of miniature illustrations representing the Unit System of Newspaper Tables. The tables are shown in outline and the units which may be filled in according to the needs of any certain composing room are illustrated separately. Manufacturer will supply separate illustrations for pasting up combinations for individual requirements. *P-Double-E File No. 1E.*

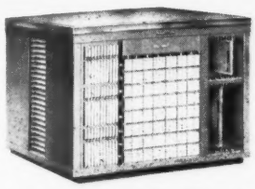
Manufacturers and suppliers whose literature is described will be glad to send copies to our readers. Just send word to Printing Equipment Engineer.

Silver Anniversary Specials

The Climax of 25 YEARS OF VALUE GIVING!

25 years of smashing bargains in new and rebuilt printing equipment—climaxed by this Anniversary offering of super values in every line. Every rebuilt machine carries our label—our guarantee of careful inspection and expert workmanship—reconditioned to give years of efficient, satisfactory service.

HAMILTON IMPOSING TABLES



We have a number of different sizes and styles as well as galley cases and type cases. Everyone an outstanding value and specially priced.

MIEHLE VERTICAL

Here's your opportunity to secure a press that will give you high production at low cost. A real money maker for any plant. Thoroughly rebuilt—ready for years of service—operates like new. Takes a 13½x20 sheet.

CHALLENGE LEVER PAPER CUTTER

A special that shouldn't be overlooked. The easiest cutting lever cutter ever built. Made in two sizes; 26½, and 30½ inches.

CHALLENGE MODEL MF PAPER DRILL

Adaptable to the needs of the medium sized shop. Speedy — accurate — efficient. Takes up to 2" of paper in one lift — Holes ⅛" to ½" in diameter.

CHALLENGE DIAMOND PAPER CUTTER

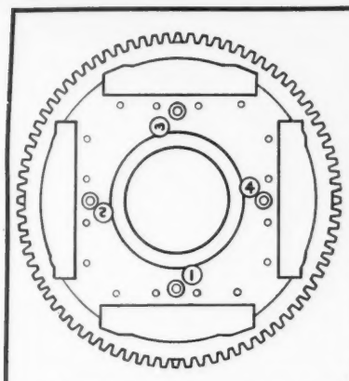
Here's an outstanding value in economical efficiency. High speed with absolute safety. Made in three sizes; 36½, 34½, 30½ inches.

WRITE FOR SPECIAL **SILVER ANNIVERSARY PRICES**

CHICAGO PRINTERS' MACHINERY WORKS

Everything for the Printer

609 W. LAKE ST. **All Phones, MONroe 1814** **CHICAGO, ILLINOIS**



Linotype Mold Disks Rebuilt

Our patented process substitutes a steel ring in place of broken or cracked iron rim. We also true up warped and sprung disks in the process. Loans and exchanges arranged. Rebuilding charge is only $30.

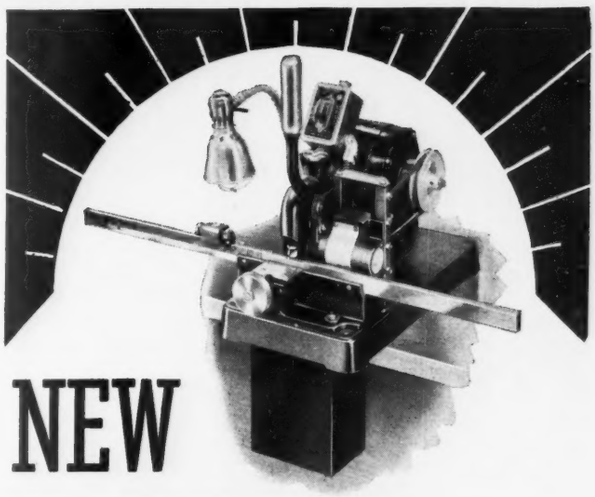
MAGAZINES FOR LINOTYPES

This magazine (for models L, 4, 5, 6, 8, 14, 18, 19, 25, 26) represents culmination of ten years' constant improvement manufacturing magazines. It is light—20 pounds lighter than an old style magazine. We use duralumin for top plate and brass for lower plate. Resulting magazine has all best features with criticisms of none. It is light, yet rugged. $95 each for full length—$90 each in lots of three or more. Splits $80 each—$75 each in lots of three or more. Time payments arranged. Also sold by nearly all dealers.

NEW CATALOG containing 108 pages, 8½ x 11, spiral-bound, is free for asking. Shows the many parts, accessories and repairs on which we can save you money.

MATERIAL WANTED: We buy, sell and trade new, used and rebuilt molds, magazines, fonts, Monomelts, motors, etc. Tell us of any surplus material.

MONTGOMERY & BACON
TOWANDA, PA.



NEW

ECONOMY MODEL

ROUSE VERTICAL ROTARY MITERER

SEVEN HUNDRED PERFECT MITERS an hour may be cut on the NEW LOW COST Rouse Vertical Rotary Miterer --- direct from strip material.

Priced for SMALLER PLANTS, the Economy Model Rouse Vertical Rotary Miterer can be used as auxiliary equipment to save walking time in larger plants.

Complete details and prices will be sent upon request.

H. B. ROUSE & COMPANY
2216 North Wayne Avenue · Chicago, Illinois

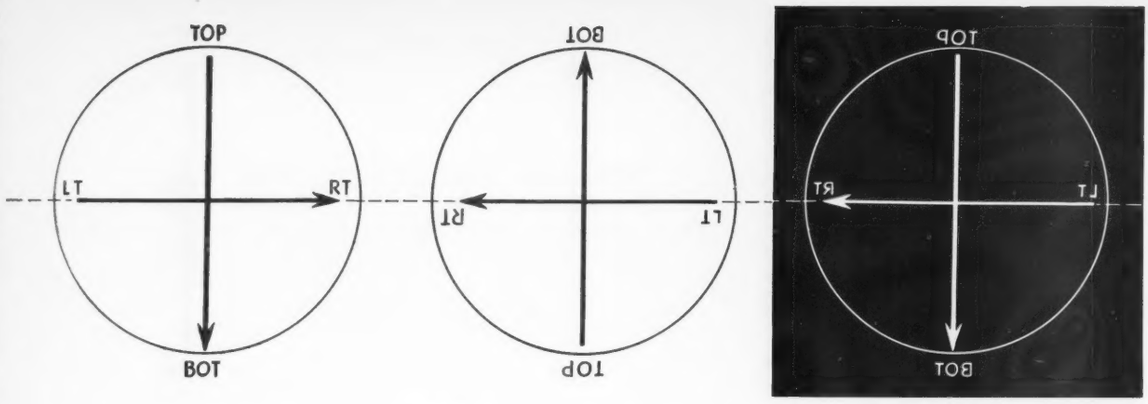


Fig. 29.—This diagram is intended to show copy or subject exactly as positioned on the camera copyboard.

Fig. 30.—Diagram represents the same copy as shown in Fig. 29 as it appears when the operator views it through the ground glass back.

Fig. 31.—Same subject as shown in Fig. 29. It's a picturization of the finished negative, emulsion side up. Hold this diagram up to the light and examine through the back to see the correct reading and position.

What Is It?

(Continued from Page 28)

Our copy, Fig. 29, consists of line work. Therefore, no halftone screen was used in its reproduction. Fig. 29 shows the position of the copy on the copyboard, with its feathered arrow headed to *BOT* while the bare arrow heads from *LT* to *RT*. When the image, same size, was gotten on the ground glass it looked like Fig. 30. Note that the feathered arrow now heads up, *BOT* being on top while the head of the horizontal arrow now points to the left.

When the sensitive photographic material is put into the camera in the orthodox manner, *viz.*, emulsion side out to the lens, our shot will look like Fig. 31 which represents the finished negative held emulsion-side up. Compared with the ground glass image it will be found that the negative has been turned about its horizontal axis to get the top in the same position as the copy. But the reversal that took place in the photographic process is still in evidence. We could have swung the negative about its vertical axis to get it reading from left to right in the manner of the copy. But it would be upside down in that case. That this is so is particularly fortunate for lithography for it eliminates added work in the photographic or plate-making stages.

It will be remembered that lithographic offset images must read correctly on the press plate because of the double transfer principle of offset-lithography depicted in Fig. 6, Article II. Therefore, when this regular negative is placed emulsion side down upon the proper light-sensitive surface and light-printed to it, the necessary positive reading and properly headed result is obtained.

Ways to Reverse the Lens Action

In direct printing such as is found in all letterpress work and some lithography, the image must read backward upon the printing medium. For in these cases the work is printed directly to the paper or stock from that image. Therefore, a reversal of the ordinary camera action must take place somewhere along the production line.

Strip-film or wet-plate work is one manner of accomplishing this objective. In assembling the photographic material, the various pieces of copy are turned over after they have been removed from their bases and are then positioned in the needed manner reading properly on the new support in the stripping process. Many uses are made of this possibility not only in letterpress but also in lithography. No inconvenience through out-of-contact spots is caused thereby in the actual light-printing to the sensitive coating because the film thickness is so minute.

Other ways are also employed at times to reverse the image. One of these is photographing through the back of the regular film or glass. When a thin-base film is used the slight change in focus and added light-ray refraction is negligible. Therefore thin-base film and strip-film are often used with emulsion side placed to the sta-flat or vacuum back, that is, film back to the lens. In shooting through the back of glass plates, however, it becomes necessary to make some correction for the thickness of the glass to obtain a sharp, clear, and correct sized negative. Three-in-one shot cameras use this method in their photographic operations but the correct position of the photographic materials assures perfect register and clearness in the final.

A more satisfactory means of turning the image in one operation in the camera is found in the use of the reversal mirror or prism. When either of these devices is used, the photographic material in the camera back is at right angles to the copy. Fig. 17, Article VI, shows such a device on a small camera with a horizontal copy board. This is similar to the idea of the Lanston overhead camera which includes a horizontal adjustable platform beneath the lens. Other camera constructions of the floor type use the turntable movement to pivot their camera on the stand and thus get the backboard in a perpendicular plane to the copy.

(To be continued)

De Poy Now in Minnesota

Tom E. De Poy of Wabash, Ind., has been appointed by Fred A. White, manager of the Mid-West agency of the Mergenthaler Linotype Company, Chicago, to represent Mergenthaler in Minnesota.

For the last two years Mr. De Poy has been associated with Nixon Newspapers, Inc., and the Wabash (Ind.) *Plain Dealer*, in charge of the commercial and advertising departments. He is a World War veteran with twenty-eight months' service overseas, is married and has three children.

William H. Nelson, whom Mr. De Poy succeeds, has become connected again with Andersen & Foss, Minneapolis.

New Address for Eastern

Edgar A. Mills, Jr., has announced removal of the Eastern Newspaper Supply Company to new location at 9603 Northern Blvd., Corona, New York.

Metallic Finish Offset Ink

Research Laboratories of Fuchs & Lang Mfg. Co., Div. of General Printing Ink Corporation, has announced Lumalith, a metalic finish offset ink, produced in a variety of shades having semi-gloss appearance. It is claimed new and striking effects in lithography are foreseen because of the possibilities attainable with Lumalith.

"FLECTO"

GUMMED PACKING FELT

"Flecto" gummed packing felt is successfully used on all types of dry mats.

- ALL GUAGES ARE UNIFORM
- EASY TO TEAR
- DOES NOT SLIP

Gauges .025, .030 and .035—Sheets 18 in. by 24 in. and guages .040, .045 and .050—Sheets 18 in. by 22 in. Cut into strips without charge.

Write for free samples.
Special discounts on quantity orders.

EASTERN NEWSPAPER SUPPLY
9603 Northern Boulevard **Corona, L. I.**

Who Buys Them?

These outstanding newspapers and commercial plants investigated all makes, then bought C&G No. 3-A Saw Trimmers.

No. 3-A C&G Saw Trimmer

Cleveland Shopping News
Cleveland, Ohio
Baltimore News-American
Baltimore, Md.
Item-Tribune
New Orleans, La.
Michigan Rotary Printing Company
Detroit, Michigan
Nebraska Farmer
Lincoln, Neb.
Standard-Examiner
Ogden, Utah
Moebius Printing Co.
Milwaukee, Wis.
Todd Company
Rochester, N. Y.
Acorn Press
Lincoln, Nebraska
Van Wold-Stevens Co.
Minneapolis, Minn.

The Above Installations Quite Recent

List of additional users upon request.

Milwaukee Saw Trimmer Corp.
610-612 East Clybourn St., Milwaukee, Wis.

Technical Books

FIFTH PRODUCTION YEAR BOOK—A sort of encyclopedia or text book about all printing processes and production matters. Invaluable to mechanical executive and production man. Lots of color. Bound in cloth, silver stamped, 424 pages, 8½ in. by 11¼ in. Price $5 cash with order.

ENCYCLOPEDIA OF LITHOGRAPHY—*Compiled by Russell L. Miles.* Besides technical information about all details of offset-lith set forth in simple language, this book contains discussions on various phases of offset-lith by well known writers. Bound in blue cloth, gold stamping. Illustrated. Size 6 in. by 9¼ in., 212 pages. Price $4.50 per copy cash with order.

ETCH PROOFS—*By J. H. Bartz.* Booklet, approx. 6 in. by 9 in., 40 pages and paper cover. Tells reasons for and how to take reproduction proofs. Price, $2.00, cash with order.

HANDBOOK FOR PRESSMEN—*By Fred W. Hoch.* Book written by authority on all phases of flat-bed letterpress production for the practical pressman. Contains 248 pages, 26 illustrations and 24 charts. $3.00 per copy, cash with order.

THE PRACTICE OF PRESSWORK—*By Craig R. Spicher.* We offer copies to our readers at the special price of $4.00 per copy, cash with order. No printer should be without a copy (9000 copies printed).

MANUAL OF STEREOTYPING—*By Joseph Goggin.* This 256-page book conveys latest technical information and manipulating procedure. Written by a practical stereotyper. Price $5.00, cash with order.

Send All Orders With Remittance to

Printing EQUIPMENT *Engineer*
1276 W. Third Street Cleveland, Ohio

2 OF THE "6"

Playing the "Lead" for Speed, Convenience and Performance, in Composing Rooms Everywhere—

The quick-acting cleaner that cannot round off, pit, score or attack metal, hot or cold. Removes all the dross, leaves mold shining like a mirror, with a smooth lubricating veneer. Identify the genuine product by its green color and the name "Triple-Action" on the can.

Invaluable around type-setting machines. A squeeze of the bulb shoots Dixon's Microfyne Lubricating Graphite just where it's needed—in slug shots, on wipers, mouthpieces, molds, space bands, etc. Adjustable nozzle for quantity control or shut-off.

JOSEPH DIXON CRUCIBLE CO., Jersey City, N. J.

OTHER DIXON COMPOSING ROOM NECESSITIES
DAILY MOLD LUBRICANT
MICROFYNE GRAPHITE
No. 635 GRAPHITE
KWIC-KLEAN MATRIX REFERENCE RUBBER
SEND FOR FOLDER THE COMPOSING ROOM 4

7274

★★★★★★★

More and More—

Newspapers are adopting "Eastern" cork molding blankets.

Quality alone is the prime factor in the manufacture of these blankets. They have extra-fine smoothness of surface and uniform density.

"Eastern" molding blankets are made to give the finest results from all kinds of dry mats.

PRICES AS FOLLOWS:

20 x 24 x ¼, hard and medium	$2.50
21 x 25 x ¼, hard and medium	2.75
20 x 24 x 5/16, Special	3.50
21 x 25 x 5/16, Special	3.75
20 x 24 x ⅜, Syndicate	4.25
21 x 25 x ⅜, Syndicate	4.50

EASTERN NEWSPAPER SUPPLY
9603 North Boulevard **Corona, N. Y.**

Renew old matrices for New Savings!

ORDER A CURLE MATRIX ANVIL

Matrix replacements soon run into real money! Why not recondition your worn matrices and turn these expenses into savings? Equip with a Curle Matrix Anvil and Tool Gauge Assembly. With these handy precision tools mats can quickly be renewed for smooth, accurate service. Your machinist can easily do the work. When he has reconditioned 325 mats the equipment is paid for!

MONOMELT CO.
1611 N. E. Polk St. **Minneapolis, Minn.**

Announces Personnel Changes

Harry W. Porte, manager of Mergenthaler Linotype Company's Pacific Coast Agency, has announced the following changes in sales personnel:

Karl E. Ponath has been transferred from Oregon to the San Francisco office of the company, where he takes up new sales duties there and in northern California.

Tom E. Willis, who has been representing the company in Utah and Idaho, has been assigned the Oregon and southwestern Washington district, with headquarters in Portland.

H. F. ("Bunny") Edmonds succeeds Mr. Willis in Utah-Idaho, with headquarters in Salt Lake City.

Ben Stewart is now covering the state of Washington, having succeeded Hubert Royce, who has been assigned new territory in California. Mr. Stewart has headquarters in Seattle.

Correction

A dimensional error appeared in the article about the Keyboard Cam Repair Block devised by Robert Caswell of the North Adams (Mass.) *Transcript* in the February issue of *Printing* Equipment *Engineer*. In the diagram a hole was indicated for reception of the journal pin when punched from the cam yoke. The size indicated was No. 25 Twist drill instead of No. 35 twist drill, as explained in the text matter. The No. 25 twist drill hole will function for the purpose, of course, but is larger than necessary.

Monotype Flash

Lanston Monotype Machine Company has announced the Monotype Flash, Series No. 373, which, it is stated, is a new display letter that follows the present trend toward the hand-drawn letter. It is especially adapted for use in newspaper and magazine advertising in all sizes. It is available from 14 to 72 point, with caps, lower case, points and figures. Fonts are composed of 79 characters.

NEW Monotype FLASH, No. 373

CLIP THIS AD
FOR FREE TRIAL SHEETS STATE PRESS AND SIZE WANTED

RIEGEL'S CERTIFINE TYMPAN

A low-priced tympan with a hard even surface and exceptional strength. Ideal for short-run job work. Nationally stocked in roll widths for every press.

RIEGEL PAPER CORPORATION 342 MADISON AVENUE NEW YORK, N. Y.

Booklet Describes Small Rotary Press

A booklet on the Cottrell Claybourn two-color rotary press is being distributed by C. B. Cottrell & Sons Co., Westerly, R. I. The new press, which is manufactured by the company's Claybourn Division, in Milwaukee, is available in three sizes, of which the smallest will handle a maximum sheet of 29¼x28 in., a maximum form of 28¾x 27½ in., and a minimum sheet of 11x17 in. The next larger press takes a maximum sheet of 29¼x45 in., a maximum form of 28¾x44½ in., and a minimum sheet of 12x21 in. The largest of the three presses will handle a maximum sheet of 36x48 in., a maximum form of 35½x47½ in., and a minimum sheet of 18x24 in.

Built for one and two-color printing, and four-color work twice through, these small rotary presses are used for moderately short runs as well as long runs of booklets, folders, inserts, labels, and many other kinds of work. The product of these presses is said to compare favorably with that of large rotary presses used by magazine and color printers, with the same standards of distribution, impression and register. Thus, according to the manufacturers, the large economies which were formerly obtainable only with large sheets and in long runs, particularly in color printing, are now obtainable by the average commercial printer on ordinary runs.

Features of the new presses, as pointed out in the booklet, are the use of accurately curved plates, requiring little or no makeready, quick register and line-up, effected by the use of the Claybourn spirally grooved cylinder and register hook system, and other features.

P-Double-E File No. 5LL32.

Magic

(Continued from Page 18)

like a different ink. If, for example, the mix is calculated for 70 deg. and the thermometer goes to 80 deg., the varnish becomes much more fluid and requires more powder to maintain the color. Contrariwise, if we start at 70 deg. and there is a drop to 60 deg., the varnish stiffens, cannot carry the powder and the print appears frosty.

The rollers also are affected. Set light for 70 deg., they swell and squash the ink at 80 deg., and shrink at 60 deg., so that they just skim the form instead of rolling the ink over it.

Rubber Plates Help

Those printers who get only occasional jobs in gold ink will find rubber plates an aid in printing on troublesome surfaces. Rubber consumes less ink and is preferred for printing gold ink on hard surfaces, either paper, steel, aluminum or glass and also on surfaces lacking in levelness and smoothness. Nearly all surfaces difficult for metal forms are readily printed from rubber.

Mixing Golk Ink

The powder is added to the varnish in an ink mixer when the batch is large. Small batches may be shaken up together in a can with the lid on. Either way is better than using knife and slab. Just enough ink for the day's run should be mixed and it should not long remain in the fountain after the run lest it tarnish and skin. For light forms, just enough rollers for a good inking should be used. For large solid forms, all the rollers are not enough. This applies to all inks.

Additions to Gold Ink?

Some wonder why gold ink cannot be conditioned like regular inks by adding heavy varnishes or stiffer inks. Such additions affect the glitter of the gold ink, without which it is nothing.

Overprinting

Whether gold ink is to be printed over gold ink, another ink, base size or varnish, the first down ink

The Weber & Fields Touch . . . . .

Dad used to laugh his head off when Weber would stick his finger in Fields' eye. The grand old team broke up in 1906 . . . not long after Kimble brought out the idea . . . of a motor built specially for printing equipment. New idea in those days, but just as sound as the profits and prestige it has brought printers through these many years. Kimble Electric Company, 2011 W. Hastings St., Chicago, Ill.

Kimble MOTORS

Distributed by AMERICAN TYPE FOUNDERS

Branches and Sales Agents in Twenty-Five Cities

ZEPHYR BLACKS

Timed to the Tempo of the MODERN Pressroom!

Perfected in three grades, they are available for practically any job. But you must try them to fully appreciate their value; it is impossible to adequately describe them. You must see for yourself how they speed production . . . with safety and certainty.

They cost no more than ordinary inks and every plant should stock Zephyr Blacks for rush jobs. Write for descriptive folder.

•

Sinclair & Valentine Co.

MAIN OFFICE AND FACTORY:

603-611 West 129th Street, New York, N. Y.

BRANCH OFFICES

Albany	Chicago	Los Angeles	New Orleans
Boston	Dallas	Philadelphia	Nashville
Baltimore	Dayton	Jacksonville	Kansas City
Birmingham	Cleveland	Seattle	San Francisco

Havana New Haven Manila

· TYPE ·
CAST FROM HARD METAL
35c PER LB. AND UP
Depending on Size and Face
The Consolidated Press & Printing Co.
1435 East 12th St. Cleveland, O.

If you want to know where it is manufactured or where it can be obtained . . .
Look it up in the
1939 Equipment and Supplies Reference Index

or varnish should be set but not dry before the second is surprinted. The safe way is to print the second ink as soon as the first ink is set so that the sheets may be handled without smearing. The same rule applies when another ink is to be printed over gold ink. Gold ink should be bone dry, however, before varnishing.

One or Two Impressions

The attempt is often made to get by with one impression of gold ink when two are needed. Let the customer decide. Even aluminum ink, best of all inks for coverage, looks better in two than one bump. The leading-circulation magazines, with runs in the millions, consume large quantities of gold ink and generally two bumps are utilized. The design may permit the gold to print over another ink, even black, but if not it is customary for one magazine to print gold over gold and for another to print gold over yellow ink. You can guess which looks better, but on the other hand yellow is one of the cheaper and gold one of the more costly inks.

After All Is Said and Done

After all the planning and preparation, headaches and heartaches, indigestion and shortened lives, we really see only ink on paper. If the message or the record is worth while, the ink and the paper both should be appropriate, the paper of the grade the job requires and the ink and paper suited to each other. Gold ink looks best on enameled coated paper which enhances its glitter. Coated-one-side paper such as litho label, glazed and gummed label and the like, take an ink, five parts varnish to four of powder by weight. Regular enamel coated (two sides) book takes a mix of from six parts varnish to four parts powder to six varnish to three powder. Nearly all other papers require two impressions for a gold that glitters, the first in either base size, yellow ink or gold ink and the second in gold ink. The first printed ink should present an open, set but not dry surface for the second bump. Antique and other uncoated book, dull coated, carton stocks, coated boards, offset, cover and other rough-finish stocks, bonds, ledgers, artificial parchment, vellum, sheepskin, etc., require a base size or ink to cover the inequalities of the surface and afford a tacky surface to hold the gold ink and preserve its glitter.

The Common Mistake

The common failure in gold ink printing is in the inking. If the rollers are either set low or soft enough to dip, the form is thumped and the rollers slide and wipe the form instead of rolling it and cause the appearance of a slur. As the thin varnish filters freely, the more so on naturally absorbent papers, plenty of ink must be fed to the sheet so that enough varnish remains on the surface to bind the powder to the paper for tight drying against the unpleasant rubbing off of the slick brass powder on the reader's fingers. If insufficient ink is run or if the mix is thick with powder, the varnish invariably filters and leaves a frosty powder on the surface with nothing to hold it. Never should gold ink be run scant as is often done with regular inks and never should excess powder be carried because these mistakes result in insufficient varnish on the surface to hold the powder.

Coverage Expected

A pound of yellow ink or gold size will cover approximately 100,000 sq. in. solid on label paper. Gold ink will cover 70,000 sq. in. to the pound on paper and 100,000 sq. in. over another ink or base size.

FREE SAMPLE ROUTER BITS

Made of special alloy High Speed Steel, Onsrud bits hold their edge longer than ordinary bits and cut smoother for longer periods, requiring less frequent sharpening. Because of their exceptionally high tensile strength, these cutters are made with ¾" long cutting edge instead of usual ½", providing more cutting life before bit is worn out. Write for test sample.
ONSRUD MACHINE WORKS, Inc.
3932 Palmer St. Chicago, Ill.

"PLATE-TAK"
CUT MOUNTING TAPE
No tacks. No cement to squeeze out. Simply lay a strip of this super-thin tape under the cut; press down by hand, and the cut is there to stay. When through, the tape strips off, leaving clean surfaces on both cut and base.
Free samples on request
EASTERN NEWSPAPER SUPPLY
9603 Northern Blvd. Corona, N. Y.

TINGUE

PRESS BLANKETS

Keep Your Presses Productive! Save Make Ready Time!

TINGUE on Press Blankets guarantees Superior Printing Qualities

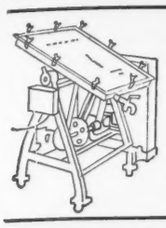
TINGUE PRINTING PRESS BLANKETS

are guaranteed to give superior printing

. . . at low production costs . . .

TINGUE, BROWN & CO.

118-120 East 25th St. NEW YORK, N. Y. | 1227 Wabash Ave CHICAGO, ILL. | 723 East Washington Blvd LOS ANGELES, CAL.



KLEAN-O-MAT PROCESS

* The only method of cleaning magazines and mats mechanically—without running out the mats. Adopted by the leading printing plants and approved by Linotype Company and Intertype Corp. Improves production—Actually pays for itself.

KLEAN-O-MAT CORPORATION

30 Rockefeller Plaza New York, U. S. A.

STOP OFFSET

Get your free copy of this new bulletin—"10 Ways to Avoid Offset." Valuable—practical—shows how to save money—improve presswork.

E. J. KELLY CO. 1807 No. Pitcher Street KALAMAZOO MICH

FREE

DUPLEX PRESSES

Semi-Cylindrical • Unitubular

Tubular • High Speed Flat Bed

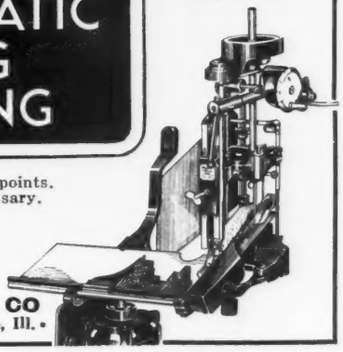
Flat Bed • Stereo Machinery

The Duplex Printing Press Co.

Battle Creek, Mich.

100% AUTOMATIC SLUG SAWING

MOHR SAW



- Sets to points or split-points.
- No liner changes necessary.
- Simple—trouble free.
- Single dial measure control.
- Absolutely safe.

Write For Details

MOHR LINO-SAW CO

126 N. Union Ave., Chicago, Ill.

FOR SALE: Goss 48 page straight line Sextuple Press 23 9/16 inch page cut off equipment with two folders and electric paper hoist. Semi-automatic A. C. Control. Two ton Hoe metal pot with pump. Hoe hand casting box and Hoe finishing machine. Priced for quick sale at $5,000 as is at Observer-Dispatch, Utica, New York, where it is now in use. Come, see it in operation.

FOR SALE—Standard 52 inch paper or paper board slitter. Modern high speed type. Reply Box 5, Printing Equipment Engineer.

GENERAL REPAIR OF LINOTYPE AND INTERTYPE MOLDS (ANY KIND, ANY SIZE). PARTS, ETC., SINCE 1912

Makers of Reid Magazine Racks, Etc.

WILLIAM REID & CO., 2271 Clybourn Ave., Chicago, Ill.

FOR DEPENDABLE MAKEREADY PROTECTION

Buy and Specify

CROMWELL

SPECIAL Tympan PREPARED Paper

THE CROMWELL PAPER CO.

4801-29 S. WHIPPLE STREET . . . . . CHICAGO, ILL.

SPRING TONGUE GAUGE PINS

Reg. U. S. Pat. Office $1.80 Doz. 50c set of 3

Made Only by Originator. All Dealers.

We Make Gauge Pins, Gauges, Gripper Fingers, Etc.

The E. L. Megill Co., 763 Atlantic Ave., Brooklyn, N. Y.

SEND YOUR TRIAL ORDER TODAY

MASTERPIECE CREEPER

REGULAR GAUGE .062"—TUBULAR GAUGE .090"

COYNE & PADDOCK, INC.

48-15 32nd PLACE LONG ISLAND CITY, N. Y.

GOODRICH PRINTERS' ROLLERS

for printing that is clear and sharp throughout the entire run.

NILES & NELSON, Inc.

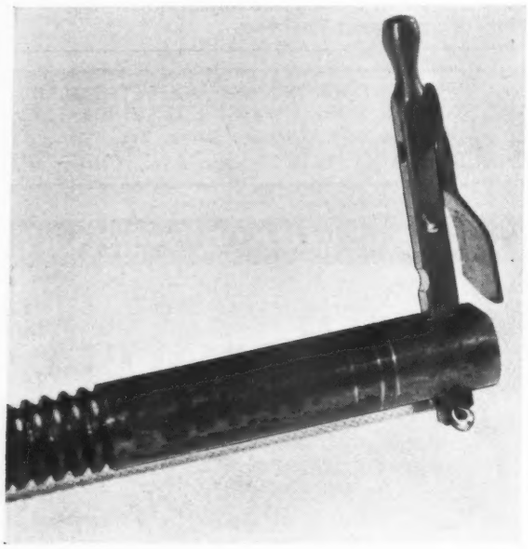
Exclusive Distributors

75 West Street - NEW YORK • 400 West Madison St. - CHICAGO

Odd-Point Measure Device

THE activity among newspapers in changing over from 6 point column rule to 4 point column rule has brought out a number of devices for supplying a means for setting the left-hand vise jaw on line-composing machines to enable the operator to set the left vise jaw to 24 picas, 4 points where it is desired to set double-column measure.

Roy E. Wilson, Raleigh, N. C., machinist, has developed a simple device for this purpose. It consists of a plunger mounted in the inside end of the vise jaw adjusting rod, carrying a 2 point finger which is interposed between the left vise jaw and the jaw adjusting rod when 24 pica, 4 point measure is wanted. The left vise jaw is set to the regular 24½ pica measure as usual, the finger supplying the 4 point dimension.



View of Wilson 24 pica 4 poin Indention Set for Linotype left-hand vise jaw adjusting rod. Dimensions of the $\frac{3}{16}$ in. sq. dril rod plunger are: Length, 1¾ in.; Cotter pin holes (to limit up and down movement of the plunger) are drilled $\frac{3}{32}$ in. and ¾ in. from bottom end of plunger respectively. Notches for detent are cut $\frac{5}{16}$ in. and ⅝ in. respectively from bottom end of plunger. The 2 pt. filling piece 1 in. by $\frac{15}{32}$ in. in its bent form. The filling piece is 2 points thick and is fastened to the plunger body by a dowel pin and flt. hd. 4x48 screw.

In Mr. Wilson's device, a piece of $\frac{3}{16}$ in. sq. drill rod is turned up with a round handle or knob. Two cotter pins limit the down and upstrokes of the plunger. Two notches or grooves are placed in the plunger body to hold the plunger in either its down or up position. To provide a hole for the reception of the plunger a No. 29 twist drill hole is drilled at right angles to the axis and $\frac{3}{16}$ in. from the end of the rod. The hole is then squared with a die sinker's file for reception of the square bodied plunger.

To provide a hole for reception of the spring and ball which form the detent to hold the pin in either its up or down position a hole is drilled parallel with the axis of the adjusting rod of sufficient diameter ($\frac{3}{16}$ in.) to admit receiving the spring and ball. The spring is Linotype D-2317 Assembling Elevator Duplex Rail Short Spring and the Ball carries Part No. C-471.

Mr. Wilson purposely made the plunger square so it cannot turn in its hole and it is small enough that it cannot interfere with any part of the first elevator when setting 4 ems or 30 ems.

Convention and Exhibit

The second annual Graphic Arts show consisting of machinery and supplies, will be held concurrently with the 21st convention of the Southern Master Printers Federation at Miami, Fla., June 4, 5, 6, and 7. The third annual printing exhibit will also be held at that time.

Advertisers' Index

	Page
American Publishers Supply	48
American Type Founders	29
Agency: G. M. Basford Co., New York, N. Y.	
Atlantic Zinc Works	51
Bijur Lubricating Corporation	42
Agency: G. E. Hatch, Advertising, New York, N. Y.	
Bingham's, Sam'l, Son Manufacturing Company	13
Booth, E. A., Rubber Company	53
Burgess Cellulose Company	43
Agency: Almon Brooks Wilder, Advertising, Chicago, Ill.	
Certified Dry Mat Corporation	53
Agency: The H. P. Boynton Advertising Agency, Cleveland, O.	
Challenge Machinery Company, The	51
Agency: Simmonds & Simmonds, Inc., Chicago, Ill.	
Chicago Printers' Machinery Works	55
Cline Electric Manufacturing Company	6 & 7
Agency: Almon Brooks Wilder, Advertising, Chicago, Ill.	
Consolidated Press & Printing Company	60
Cottrell, C. B., & Sons Company	27
Agency: Fred Glen Small, New York, N. Y.	
Coyne & Paddock, Inc.	61
Cromwell Paper Company, The	61
Agency: Roche, Williams & Cunnyngham, Inc., Chicago, Ill.	
Cushman Electric Company	44
Dayton Rubber Manufacturing Company, The	15
Agency: Geyer-Cornell & Newell, Inc., Dayton, O.	
Dixon, Joseph, Crucible Company	57
Agency: O. S. Tyson, Inc., New York, N. Y.	
Duplex Printing Press Company, The	61
Eastern Newspaper Supply	57-58-60
General Electric Company	37
General Electric Vapor Lamp Company	31
Agency: G. M. Basford Company, New York, N. Y.	
Goodrich, The B. F., Rubber Company—(Niles & Nelson, Inc.)	61
Agency: The Griswold-Eshleman Co., Cleveland, O.	
Goss Printing Press Company, The	14
Agency: Simmonds & Simmonds, Inc., Chicago, Ill.	
Hammond Machinery Builders, Inc.	43
Harris-Seybold-Potter Company	8
Agency: Baker and Baker & Associates, Inc., Cleveland, O.	
Huber, J. M., Inc.	35
Agency: Bermingham, Castleman & Pierce, New York, N. Y.	
Ideal Roller & Manufacturing Company	33
Agency: Arthur E. Theobald, Advertising, Chicago, Ill.	
Imperial Type Metal Company	49
International Printing Ink Corporation	45
Intertype Corporation	Outside Back Cover
Agency: Fred Glen Small, New York, N. Y.	

	Page
Kelly, E. J., Company	61
Agency: Almon Brooks Wilder, Advertising, Chicago, Ill.	
Kimble Electric Company	59
Agency: Kirkgasser-Drew, Inc., Chicago, Ill.	
Klean-O-Mat Corporation	61
Lanston Monotype Machine Company	16
Linograph Corporation	41
Agency: Fred Hinrichsen, Advertising, Davenport, Iowa.	
Linotype Parts Company	49
Ludlow Typograph Company	5
Megill, The E. L., Company	61
Mergenthaler Linotype Company	Inside Front Cover
Agency: Kenyon & Eckhardt, Inc., New York, N. Y.	
Milwaukee Saw Trimmer Corporation	51
Mohr Lino-Saw Company	61
Agency: Almon Brooks Wilder, Advertising, Chicago, Ill.	
Monomelt Company	58
Agency: Olmsted-Hewitt, Inc., Minneapolis, Minn.	
Montgomery & Bacon	55
Morrill, George H., Company	11
Agency: Rose-Martin, Inc., New York, N. Y.	
National Graphic Arts Expositions, Inc.	10
Niles & Nelson, Inc.—(The B. F. Goodrich Rubber Co.)	61
Agency: The Griswold-Eshleman Company, Cleveland, Ohio.	
Onsrud Machine Works, Inc.	60
Observer-Dispatch	61
Reid, William, & Company	61
Riegel Paper Corporation	58
Agency: William H. Hodgins, Advertising, New York, N. Y.	
Rolled Plate Metal Company	51
Rouse, H. B., & Company	55
Agency: Clifton Kirkpatrick, Chicago, Ill.	
Sinclair & Valentine Company	59
Sta-Hi Corporation	3
Tingue Brown & Company	61
Vandercook & Sons	Inside Back Cover
Agency: Clifton Kirkpatrick, Chicago, Ill.	
Vulcan Proofing Company	45
Agency: Fred Glen Small, New York, N. Y.	
Webendorfer-Wills Company, Inc.	12
Agency: G. M. Basford Company, New York, N. Y.	
Wetter Numbering Machine Company	54
Agency: O. S. Tyson & Co., Inc., New York, N. Y.	
Wood Flong Corporation	41
Agency: Bela St. George, New York, N. Y.	
Wood Newspaper Machinery Corporation	39
Agency: Fred Glen Small, New York, N. Y.	

A Discovery THAT SPEEDS Production!

To some production executives the No. 22 Vandercook Electric Proof Press has been a treasure find — a discovery that multiplied proving capacity, and reduced proving costs.

No. 22 Vandercook Electric Proof Press affords the fastest method of proving type and plates in galleys. It will print **40 Good Proofs A Minute.**

No. 22 Vandercook Electric Proof Press is used extensively for proving type and slugs as they come from the machines. It can also be used for proving book pages, small jobs and advertisements. It takes a form 8"x 26".

No. 22 Vandercook Electric Proof Press is essential equipment in the commercial plant where composition is heavy. It is a time saver for the trade compositor or newspaper publisher.

Complete information on the No. 22 Vandercook and other profit making proving equipment is yours for the asking. Use the convenient coupon or write on your letterhead.

Without obligation please send complete information on the No. 22 Vandercook Electric Proof Press.

Name _____

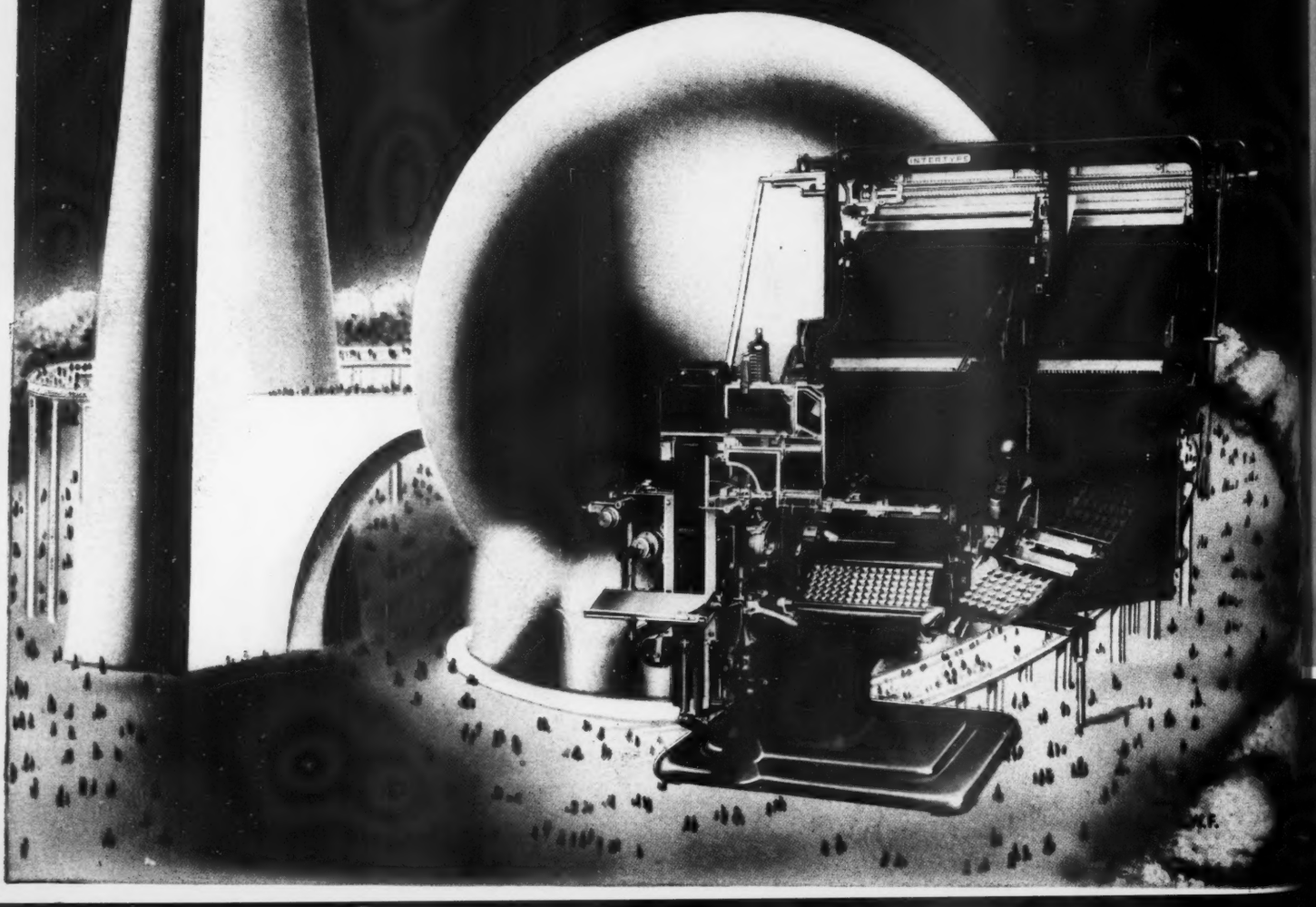
Address _____

_____

The World of Tomorrow

THE MACHINE OF TOMORROW

When you see the great New York World's Fair 1939 . . . the World of Tomorrow . . . add to your pleasure by visiting Intertype in Brooklyn . . . and there view the Machine of Tomorrow. Here you will see a typesetting machine designed to increase profits for you. Modern, streamlined from base to new Mat-Traffic Light, this Intertype machine is faster, more flexible, more economical, and more profitable than ever before. You owe it to yourself to prove that these are not just idle words, but true facts backed by Intertype's reputation. When you know Intertype better, you'll fully appreciate why we say "Step Ahead and Stay Ahead with Intertype."

INTERTYPE

360 Furman Street, Brooklyn, N. Y.